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ABSTRACT

Just as programs and organizations have too frequently been established for the presumed benefit of mankind but do not work out as expected because the social methods available are not good enough, so the author proposes that the existence of social problems in general bespeak the need for new social inventions. Social inventions provide laws, organizations, or procedures that constitute the social machinery that permit society to implement its ideals. In the first portion of this book, the theory, nature, and process of social inventions are described in relation to education, mental health, social services, and other fields. The latter section contains a list of social inventions and a brief note of the when, where, who and why for each. The list is categorized as to general, legal, welfare, educational, governmental, voluntary, and psychological social inventions. (Author/KSM)

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SOCIAL INVENTIONS

SASKATCHEWAN NEWSTART

ED 086571

SOCIAL INVENTIONS

SASKATCHEWAN NEWSTART INCORPORATED

PRINCE ALBERT, SASKATCHEWAN

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Grateful appreciation is made to Kenneth E. Dowie, who carefully compiled the chronologies of 280 social inventions. Readers are invited, however, to write to the undersigned to suggest additions or other changes to these chronologies.

D. Stuart Conger.

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SOCIAL INVENTIONS AND SOCIAL PROGRESS

We are justly proud of the scientific progress that we have made in the past 100 years. It has been said that the way that people lived at the turn of the century was more similar to the style of life in Biblical times than to life in the present day. To substantiate this assertion, several examples have been offered: the fact that the common conveyance was by means of a donkey in Christ's time, and the horse in 1900, compared with the automobile or airplane today. Again, most major advances in medicine have been made since 1900, such as Salk vaccine, insulin, tranquilizers, antibiotics, chemical contraception, and many surgical procedures. Communication has greatly improved over the years with the invention of writing in 3000 B.C., printing in 1450 A.D., radio in 1901, and television in 1930.

In all the ways that mechanical, chemical and electrical technology affect our lives we have progressed a great deal. On occasion our technological progress has been frightening and potentially destructive of our environment and ourselves, and it has been suggested, therefore, that we hold up or arrest scientific development.

In the interests of society, we should not stop scientific invention, but rather concentrate on the invention of better methods for the proper functioning of society.

Canada needs to make social inventions to alleviate its social problems. When we compare our problems with those of Biblical times,

we find few basically different ways of coping with the problems in the past 2000 years. Some of our solutions are more systematic and perhaps more humanitarian, but otherwise not very different. Certainly not different when we contrast the great leaps in scientific technology in the same time.

Need for Social Inventions

The Special Senate Committee on Poverty recognized the need for new approaches when it wrote that "the social welfare structure, so laboriously and painstakingly erected in Canada, has outlived its usefulness."

The Committee further stated:

> "The whole welfare system, at all levels, costs Canadians more than six billion dollars a year, yet it has not significantly alleviated poverty, let alone eliminated it. Welfare rolls have not diminished. The problems grow, costs go up, and up, and up, and will, in time, suffocate the taxpayer."

Other social problems also bespeak the need for new social inventions. Our approach to unemployment is still largely to blame the unemployed for being without jobs. The fact that we train and re-train some 300,000 adults each year is mute evidence that we consider their unemployment to be their lack of skill. Our approach to language training is very inadequate, and can only be understood as a manifestation of racial intolerance. We know that our correctional institutions don't reform. We have no answer to marriage breakdown, except separation and divorce.

Some 270,000 Canadians suffer from alcoholism and the average working alcoholic loses two to three weeks annual working time because of his addiction. It is said that the majority of serious motor accidents are caused by drivers that are impaired. There is an urgent need to invent a cure for this social disease. The first strike took place in 427 A.D. when the Plebs struck for certain rights. We still have not invented a better method of resolving labour disputes. Striking Canadian workers usually lose 5,442,000 working days each year in about 535 strikes. We are not even experimenting with new methods of resolving strikes.

In expressing their desire to overcome these problems, politicians attempt to capture the essence of national social objectives in a phrase such as, "elimination of poverty", "War on Poverty", "the just society", "equality of opportunity", and "new deal for people". The process of developing enabling legislation often distorts these ideas to accommodate existing legislation, jurisdictions and constitutional prerogatives; but damaging as that may be, it is in the implementation that the real ruin sets in. By the time a program is made operational it bears little relationship to the original objective of the politician to do something for the people. Three main factors wear away the promise and blunt the intent of the legislation.

Consideration of the war on poverty illustrates a first reason. The "action" in the war on poverty has been limited according to the usual jurisdictions of federal, provincial and local government, with each

level divided again according to departments within those jurisdictions. For instance, at the federal level, different agencies and operating departments have responsibility for different aspects of poverty: Secretary of State; Manpower and Immigration; Health and Welfare; Regional Economic Expansion; Indian Affairs and Northern Development, to name but a few. There is no focus of responsibility and authority. The result is the "cop out" phenomenon, whereby each agency interprets its legislation in such a way as to narrow its area of involvement as much as possible and diligently recognizes the jurisdictional prerogatives of other agencies, and no comprehensive planning or programming can be achieved. With similar jurisdictional problems at other levels of government, the War on Poverty looks more like a guerilla war than a National Crusade.

But if the complex nature of government in our federal system can not frustrate the intent of the legislation, a second factor adds its influence. Policy formulation is placed mainly in the hands of economists who translate social problems into economic problems and limit program conceptualization to allocation of money and other resources. Partly because of the predominance of economic thinking and of economists in the higher echelons of the federal civil service, the social objectives of the government become translated into economic objectives. These are then expressed in economic programs, such as manpower development, labour force participation, job creation, industrial and economic development, and incentives to industry for the employment of native people. The economic tools of money and resource allocation become ends in themselves, rather than means to the achievement of social goals. Economic development

programs are necessary but as substitutes for social development programs, they will not of themselves resolve the problems of poverty. The fallacy in the reliance on economic development seems to be in the expectation that the jobs created by industrial and regional development will be filled by the poor indigenous to the area; this does not happen unless significant efforts are made to motivate, train, place, counsel and sustain such people in their preparation, entry and adjustment to the work environment. There are numerous examples of industrial development creating new jobs with labour and staff imported to fill them, while the indigenous poor remain untrained, unemployed and continue to subsist on transfer payments of one sort or another.

At the implementation level, a government that wants to diminish the existence and seriousness of social problems such as poverty, illiteracy, racial strife, unemployment and crime, usually either,

1. re-organizes the delivery of services to the people, or,

2. intensifies the use of present methods of casework, training, etc.

There is at present a serious gap between the national desire to produce social change on a massive scale and the necessary educational, welfare, technological and manpower resources to meet this objective. More than money is needed; more than re-allocation of resources is needed; a change in approaches, methods and institutions is required.

Canada needs better methods of human and social development to achieve a just and equitable society; neither surveys nor armchair techniques can create them. They can be developed only by means of action-research, which conceives, develops, tests and evaluates various methods in real life situations among the people. Experience with manpower retraining programs has proved that training, while necessary, is frequently not enough to enable the poor person to extricate himself from poverty. The multi-faceted problem of poverty must be attacked by an integrated and comprehensive program of services. This requires a marked change on the part of many social institutions currently providing single solutions based upon the methods of a single profession; there is a need to develop multi-disciplinary integrated programs to deal effectively with poverty.

There are a number of approaches to changing human behavior. Four of the most important are: psychotherapeutic approaches, institutional approaches, social welfare approaches, and educational approaches. Psychotherapeutic systems grew out of an attempt to provide treatment for the mentally ill and to discover principles for explaining human behavior. Institutional systems, as represented by prisons, mental hospitals, and reform schools, grew out of a need to protect society by removing from it those individuals who, for a variety of reasons, constituted a potential threat to good social order. Social welfare systems emerged out of the need to provide destitute people in urban areas with a minimum subsistence. The educational system grew out of the conviction that the smooth functioning of a democratic society required an educated citizenry.

Until recently, these approaches were not related in practice. Today there is a growing awareness that sound mental health, the protection of society, and the education and welfare of all citizens, are intimately interrelated. Yet, in spite of this awareness, there still exists considerable separation between each of these approaches represented by different professional allegiances and different bodies of knowledge and theory. Although in each of the fields it is beginning to be recognized that human behavior is highly complex and cannot be dealt with in a piecemeal form, there have been few attempts to integrate the varying points of view. Each of these approaches by itself is inadequate to deal with the various problems of today, nor is a mere composite of these theories and techniques enough - a true synthesis is needed.

Our social problems are going to be with us until we invent better solutions, but we are not even trying.

We know that we need research centres to find cures for medical ailments; experimental farms to develop cures for infestations and diseases of plants and animals; oceanographic research stations to study aquatic conditions, but we don't see that we need experimental stations to invent new ways of dealing with our social ailments.

Canada needs research stations to create new ways of:

1. alleviating poverty,
2. creating jobs,

3. teaching languages,
4. achieving inter-racial accord,
5. reducing crime,
6. increasing family harmony,
7. overcoming addiction,
8. curing mental illness,
9. providing adequate housing,
10. settling labor disputes.

This is not to say that we have made no progress in these areas in the past 2000 or 2,000,000 years. We have made some progress, thanks to the limited number of social inventions that have been made over the years, with little or no official support for the research activity. Why have we not supported social research centres to the same extent that we have funded scientific research?

There are five reasons why we do not have social invention centres:

1. we tend to see the problems of society such as poverty, unemployment, crime, and poor housing, as resulting from failings in human nature that should be addressed educationally, moralistically, punitively or tolerantly, rather than as ailments in need of more effective treatment processes.

2. we have not acknowledged the importance of social technology in developing our society over the years and hence the potential

that social inventions have for the further improvement of society. For instance, we do not realize that schools, courts, legislatures and other institutions were social inventions that resulted in great social progress, and that it is possible to invent new institutions of similar value to overcome present ailments and further social progress.

3. We have vested interests in the way things are done now, and are apprehensive about the implications of any tampering with society. The disturbances in the courts and in the streets confirm in our minds that the people demanding changes in our social institutions are more intent on destroying our way of life than on the constructive development of it. We do not see these disturbances as signs of the need for inventing some improvements for society.

4. Social scientists are wary of attempting to create social inventions but generally prefer an analytic role rather than inventing things that are instrumental to change. Some social scientists, however, have invented certain important procedures including: intelligence tests, psychoanalysis, behavior modification and programmed instruction. The invention of new social institutions over the past 70 years have come from a wide variety of sources, such as the Boy Scouts, by a soldier; Alcoholics Anonymous, by an alcoholic, and service clubs, by a businessman. Thus, social scientists have invented what they could in the laboratory or the clinic, but it is a broader group that has invented the social

institutions in the community.

Both types of social inventions need to be made, either separately or in concert.

5. We do not understand the experimental process, and are horrified at the idea of experimenting with people - when in fact, people like to be experimented with because they get more attention from the researchers than they usually receive in their normal day.

Definition of Social Inventions

What is a social invention? A social invention is a new law, organization or procedure that changes the ways in which people relate to themselves or to each other, either individually or collectively. Examples of laws that are social inventions include the Poor Law of 1388, which first gave the poor the right to relief, or the Indenture of Children Act of 1601, which spelled out the terms under which children were bound to another person or family, or the English Bill of Rights in 1689, or the Compulsory School Attendance Act in Prussia in 1717, or the Swiss Unemployment Insurance Act of 1789, or the Secret Ballot Act of 1872 in England, or the laws against cruelty to children that were enacted in the United States after 1875, at which time the New York Society for the Prevention of Cruelty to Animals demonstrated that it was possible to prosecute parents for the abuse of children under laws against cruelty to animals. (We had laws to protect animals before we had them to protect children!)

Examples of organizations that were important social inventions would include the following:

- schools in Sumer in 2500 B.C.,
- law courts in the same country in 2400 B.C.,
- House of Commons in 1300 A.D.,
- labour union in England in 1696,
- penitentiaries in Rome in 1700,
- adult schools in Wales in 1754,
- Y.M.C.A. in England in 1844,
- Children's Aid Society in New York in 1853,
- Red Cross in Geneva in 1864,
- Teachers Colleges in New York in 1894,
- Service Clubs in Chicago in 1905,
- Boy Scouts in England in 1908,
- United Appeal in Cleveland in 1913,
- Alcoholics Anonymous in Akron, Ohio, in 1934.

Procedures that represent social inventions would include:

- charity, 2100 B.C.,
- democracy, 510 B.C. in Athens,
- municipal system, 100 B.C. in Rome,
- licensing of teachers, 362 A.D.,
- training of lawyers, 1292,
- oath to tell truth to the courts, 1327,

- Hansard (the written record of debates in the House of Commons) in 1608,
- formal steps in teaching, 1838,
- probation in Boston, 1841,
- I.Q. tests in Paris, 1905,
- programmed instruction in U.S., 1957,
- computer assisted instruction in U.S., in 1960.

A social invention such as the law court, school, municipal government, or prison, spawns many ancillary inventions that ultimately create a social system. For instance, the social system developed around the civil law court includes the judge, jury, lawyer, plea, coroner, justice of the peace, code of law, law schools, etc. Each component of the system was itself an invention, but adapted to fit the system.

Each social system comprises a series of social inventions. Some systems are relatively well developed - such as education, while other systems - such as intergroup relations - have so few methods to rely on that the system is more of a constellation of problems than of solutions. It is true, however, that education is much criticized at present although its shortcomings may not be nearly as severe as the shortcomings of our health system that does not deal well enough with many, many ailments, including addiction, acne, cancer, asthma, arthritis and mental illness.

The essential difference between these two systems is that medicine

has developed a system for inventing better methods of curing and preventing disease and people recognize this and support medical research. On the other hand, education does not have a system for the invention of new methods of education, although there is some investment in educational research, and there are in Canada at least a few centres doing important educational experimentation. Other social systems such as welfare and corrections are very stable as far as their technology is concerned because they have not established research laboratories at all, and hence, improvements in these areas can hardly be expected except at a very slow rate.

Some of our social problems in Canada do not even have a system of social technologies to provide relief and hence we can anticipate continued frustration with little hope of improvement. A critical example of this is the burgeoning problem of racial/linguistic discord in Canada. The social technology for dealing with this problem does not exist and no real efforts are being made to develop it. Among the needed methods are vastly improved methods of (1) teaching languages, (2) overcoming prejudice, (3) creating and sustaining dialogue, (4) fostering equality between groups, (5) etc. The present methods that are available are so crude that while they may be used to force progress in one area they create a backlash in another. Thus, for instance, efforts to make more people bilingual apparently increase prejudice, and, therefore, our programs in the entire area of racial/linguistic reconciliation amount to a zero sum game. The elements or components of this system, therefore, act to maintain the set status quo rather than effect some progress.

Our present systems of law, education, welfare and municipal government can be directly traced back two, three, four or five thousand years and changes over the years have represented important, but only secondary, inventions that have modified the system, but not created entirely new systems. Furthermore, social systems, as a rule, operate as monopolies which, of course, tend to be less susceptible to change or replacement. The citizen does not have a choice of school, jail, court or welfare agency to attend.

The educational institutions were invented in Sumer in 2500 B.C., teachers contracts in 445 B.C., State supported schools in 75 A.D., licensed teachers in 362, schedule of teachers salaries in 376, teacher training in 1672, classroom instruction in 1684, vocational education in 1695, compulsory attendance in 1717, adult schools in 1754, public schools in 1763, kindergartens in 1837, formal steps in teaching in 1838, educational tests in 1845, guidance counselors in 1909, teacher aides in 1953, educational television in 1956, programmed instruction in 1957, and computer assisted instruction in 1960. All of these inventions, subsequent to the invention of the schools and universities, were ones that made education more efficient, but have not changed the essential nature of the institutions.

If you consider transportation, you find the citizen has several separate choices of systems that he can select, e.g., bus, train, car, snowmobile, and motorcycle, to discuss powered land transportation alone. Each of these systems is separately owned and operated, or manufactured

and sold, thus giving the citizen real choice. Each of these represents a prime invention that spawned its own system, e.g., the car prompted the invention of motels, credit cards, paved highways, service stations, drive-ins, driver training schools, traffic police, parking meters, shopping centres, and automobile associations, to name but a few.

When we look at education today we see some signs of people chafing at the monopolistic education system which includes schools, universities, colleges of education, departments of education, and teachers' unions. These act as a constellation interacting in mutual maintenance and stability. It has been said that it is easier to move a graveyard than to change a curriculum, and this describes well the slowness to adopt a new invention, even if it is compatible with the system. There are too many vested interests to contend with.

The invention of programmed instruction might lead to the recognition that education can be achieved outside formal institutional structures. This could lead to an acceptance that there are alternative sources of learning and then the separation of the certification of knowledge from the institutions that teach. Thus, programmed instruction could be a very major social invention, but its potential may not be fully realized until it spawns its own educational system, or alternatively, is adopted by a more appropriate agency established for the advancement of learning.

For instance, because programmed instruction is essentially a self teaching method it does not require the stand-up teacher, but solely a

person who can occasionally answer a question or explain a point at the request of the student. Furthermore, programmed instruction does not require a class of students at all, nor does it require a small class such as 35 students. Finally, it permits each student to learn simultaneously even though each student may be at a different point in his studies. All of these conditions are completely foreign to our present educational system that dictates what material will be covered on what dates, how many will be in the class, etc.

On the other hand, we do have another learning institution that allows people to study at their own pace, to be left alone unless they want help, and that accepts people who want to learn regardless of hair length or clothing style. This institution places no limits on the number studying. It is the ideal institution to use programmed instruction. It could be the alternative school for the student who can learn better by himself through programmed materials, books and other self teaching devices. This institution is the library. We could switch much of our educational programs to the libraries except for the fact that the schools have a monopoly on education. We could make great gains in educational progress and economy if we gave the libraries the same right to issue certificates of knowledge as the schools have. Students could be given the option of going to school or attending the library. Providing this alternative to the students and this competition to the schools could benefit society.

The individual social inventions that have made up our legal, educational, welfare and other social systems are important and have indeed contributed a great deal to society. None of us would want to live without the protection of police and a legal system that presumed us innocent, and accepted only rational evidence, nor would we want to live as illiterates, unable to read the paper, etc.

But society is far from perfect, and our social problems are greatly in need of solutions. Ten social inventions, however, will not be enough to cure 10 social problems. Although Banting and Best invented insulin 50 years ago as a cure for diabetes, medical research laboratories are still engaged in important research on the same illness. Perhaps it will take ten or twelve inventions to really cure diabetes. So it might be with each of our social problems.

It has been demonstrated that it takes about 50 years for a new educational invention to be used in half the schools. It is certain that other social institutions take just as long to adopt new improved methods.

Because of the monopolistic nature of our social institutions and systems, and their difficulty in adapting to new circumstances or achieving a significant measure of self renewal, it may be as necessary to invent new social institutions as to invent new laws or procedures.

At the same time, however, our social problems are growing in severity

and people are no longer docile about being in jail, unemployed, poor and discriminated against, and they are using television, strikes, boycotts, demonstrations and even violent means to draw attention to their problems.

Present organizations that are almost overwhelmed by the sheer demand to provide services on a minimum budget, can not be expected to invent new methods. Sometimes such agencies are not able to adapt sufficiently to adopt new social inventions. A similar situation would have been to expect the railways to invent a better alternative means of transportation. They were not even prepared to adopt the car when it was invented. We would still be in the railway age, and the car would still be an awkward means of transportation if the automobile had been given to the railways to develop or implement after it was invented.

Yet, this is precisely what is done with our social problems and innovations. If a new educational method, such as programmed-learning, is invented, which does not require a stand-up teacher, it is assigned to stand-up teachers to try it out, and naturally, they find it isn't very good.

For the same reasons there has been little progress in the reformation of criminals since Pope Clement invented penitentiaries in 1700. The reason is that research and innovation in prisons has been assigned to prison officials, and they are no more likely to come up with a new method than the railway might have invented the car. The invention of

the prison was made by a Pope, not by people engaged in handling criminals, and better methods of penal reform will be made only by people who have no direct or indirect interest in maintaining the present system. Canada jails a disproportionately high number of its citizens relative to other countries in the western world. This rate of jailing, the rate of crime, the changing nature of crime do not auger well for the health and stability of the Canadian society. It is imperative therefore that Canada undertake serious social experiments to develop new and better methods of improving present methods of dealing with crime and corrections.

Generations of Social Programs

Manufacturers of consumer goods, such as clothes and cars, have been able to design obsolescence into their products so that there is regular repeat business. Designers of social programs have been less attentive to the motives of their clients and do not exalt the client in the way that business suggests it does when it proclaims the customer is king. Certainly, no social agency would dare to provide an equivalent to "goods satisfactory or money cheerfully refunded." Most social agencies know that their services are not satisfactory and that there is seldom a cheerful relationship between client and agency.

The problem is not that the agencies fail to add a little "pizzaz" to their service, but rather, that they do not bring out new improved models or methods in keeping with the increase of social science knowledge, the development of social technology, or the changes in society itself.

As far as the relationship between agency and client is concerned, too often the delivery of social services is done either in a punitive manner or at best in an impersonal "businesslike" style, whereas business uses a more seductive approach.

These contrasting approaches are illustrated by the premises; the money spent on consumer research, improving the product, attracting the client and packaging information for the client; the trading versus begging relationship of clients to agency; pleasure versus puritan orientation of the agency; emphasis of the agency on building the client's self-image versus the humiliation of self-examination and revelation.

Inventions in education, penology, welfare, etc., have not kept up with the tempo of mechanical, chemical and electronic inventions.

It is a fact of commercial life that it is necessary to come up with "new improved" something each year or season. But it is also understood that something "new and improved" will be introduced the following year. Sometimes an innovation is an improvement of substance, sometimes of style, and sometimes it is a failure. Occasionally the improvement represents a new generation of the product. Examples of such developments include the self-starter in automobiles (which in turn invented the woman driver); automatic timers for ovens, and instant electronic baking.

The Ford Motor Company undertook a great deal of technical and consumer research in designing the Edsel. This car, however, was not popular with

the public, but fortunately Ford is a company and was able to discontinue this car. Had the Edsel been developed by a governmental agency (which of course is forbidden to err, and therefore can not acknowledge its lemons) it would still be in production and it would be given to under-developed countries as foreign aid or as a bonus for buying our wheat. Ford did not give up its consumer and technical research, and subsequently, developed good and popular cars such as the Thunderbird and Mustang.

We must do the same with our social programs. We must see them as "generations" in the evolution of truly valuable and important social technologies. In education, tests, lectures, case study methods, audio visual aids, behavioral objectives, individually prescribed instruction, were important developments which must be continued and continually improved.

In psychotherapy, psychoanalysis, non-directive counselling, reality therapy, life skills, etc., represent "generations" in the art. Further generations must be developed.

In welfare and corrections, and particularly in race relations there has not been very much development of methods at all, let alone generations of these methods.

One of the problems that we face in prompting social invention is the lack of a recognition that they are necessary. This is because of the lack of social invention technology, and the closeness between the social program and the political world.

People recognize that cancer can be cured only by medical research. The political issue here, therefore, is how much money is devoted to cancer research.

People and politicians (if they can be separated in this way), do not acknowledge that intergroup relations can be resolved through inventing better methods of learning languages, understanding, etc., rather it is seen as the need to face relationships and reality. What really is needed is a series of social invention centres to invent these better methods; not just once, but continuously.

The great advances of the nineteenth and twentieth centuries are based upon the development of procedures for technical invention - what we know as the scientific method. The social sciences have adopted the scientific method to evaluate practices, not to develop new social technologies. The process of social invention as practiced in curriculum development involves the following stages:

Stages of Development

1. Concept Study

This initial stage comprises a review of the nature of the problem area and attempted solutions to date. This includes a study of the theoretical and research literature, a study of the requirements of the situation, and assessment of various theories and methods of

intervention. The concept study results in preliminary specifications for the desired outcomes, identifying the skills or other factors required to achieve the outcomes, and designing the broad strategies to achieve these goals.

2. Exploratory Development

This is the preparation of initial program strategies, methods and materials, and examination of them to evaluate the feasibility of the proposed solutions and determining their parameters. It may involve a reformulation of the concept study, but in any case, will result in more detailed specifications and cost figures.

3. Prototype Development

This stage comprises the preparation of detailed program strategies, methods, materials and evaluation system, and the training of staff to conduct them. Cost time and resource estimates are made and scheduled.

4. Pilot Study

This stage is the test of the new prototype which allows sufficient acquaintanceship with the problem and the prototype to permit necessary reformulations including the specification of logical alternatives.

5. Advanced Development

This stage is the redevelopment or further development of the entire

program including the strategies, methods, materials, staff training program and evaluation system.

6. Program Experimentation

This comprises formally structured, systematic, experimental effort to test alternative program elements, or the value of the program with different groups or under different circumstances. This stage may involve repetition of testing, on all or selected components of the program.

7. Program Formalization

The program development process is essentially a sequence of trial-revision interactions with modifications after each test to successively approximate the consequences being sought. The cyclical nature of the process means that each stage to this point may have been repeated several times. The preparation of the program into a formal model which can be used elsewhere with predictable results must take place at the optimum time considering results of evaluation and urgency of need for the program.

8. Field Test

Once a satisfactory program model has been prepared it is then tested under ordinary operating conditions to determine the essential characteristics of the program support services required by the user in a field setting, and the interaction between the program and other programs

and services in the institution or community. Some testing of content and process may be included in this stage.

9. Operational Systems Development

This stage is the preparation of the implementation and other systems that will be used by the institution expected to use the new methods. The systems are prepared for the implementers, the administrative support personnel and the monitoring agency.

10. Demonstration Project

This stage is the first major attempt to foster adoption of the new program. It includes joint sponsorship of the project by a potential user agency in which the operation systems are used.

11. Dissemination

This stage may take place at the same time as previous stages and involves the conduct of publicity, seminars, conference presentations, publication of books and other documents. This activity is necessary to get the relevant academic, professional and administrative reference groups in full support of the project's widespread adoption.

12. Installation

This final stage includes the provision of consulting services and staff training necessary for satisfactory adoption of the program.

Can You Experiment With People?

Some people believe that it is wrong to experiment with human beings. They argue that the researcher is "using" people for his own purposes and denying the subjects their own freedom, dignity, self-direction and that he is probably misleading them or tricking them into believing or doing certain things that are contrary to their nature or integrity.

People don't want to be treated as "guinea pigs". This is a popular notion, but it is wrong. People envy the special attention that guinea pigs get. People don't want to be treated as part of the economic machine - they want to be treated as human individuals. Workers on the assembly line don't get this. Typists in a clerical pool seldom get it. A child in a class of 40 students doesn't get it. Subjects in social experiments do get the special attention of someone (the researcher) paying some attention to them, and being genuinely interested in their reactions. Indeed, the good feeling that the experimenter creates in his human guinea pigs, because he is interested in them, has been known to ruin good experiments!

It is possible to experiment with people, and they like it. The real problem is to experiment with the right people. To obtain required information on social problems such as prejudice, illiteracy, crime, etc., the experiments must take place with people who typify these problems. Furthermore, the experiments must take place where the action is. If, for instance, the research problem is to test hypotheses why people commit crimes, then the experimental study must be done where people commit crimes, and generally in the circumstances under which crimes are spawned. If, on the other hand,

the experiment is to test new methods of reforming criminals then the experiments must take place in reform schools, prisons, halfway houses, or other appropriate circumstances. Certain experiments may be done in isolated social laboratories, but the ultimate social experiment must take place in normal circumstances if the researcher wants to find out what really happens.

Experimenting with people means that you assess them at some point in time, try a new program with some, and an old program with others, then you assess the people again to see if those who took the new program are any better off than those who took the old. Technically, you are not experimenting with people but with programs, because if you find that the people are no better off for taking the new program, you fault the program and say we have to find a better way or we have to make a better program.

We can be assured that people do not mind being subjects in human experiments. They will trade their co-operation in the project for being treated as human beings!

Saskatchewan NewStart experimented with up to 110 people in its laboratory at any one time. It has traded two things for the co-operation of these adults, (1) a commitment to help them meet their objectives in further education, and (2) some greater attention to them as people. The first objective has the advantage of meeting the experimental subject's needs, and also being the topic of research for NewStart. Thus, it is possible to experiment with different training methods while at the same time providing the subjects with the face validity of the work. It is also

possible to explain to the students that they are subjects in an experiment.

Enormous sums of money are being spent on physical sciences and related areas, but at the present time in Canada little is being done to invent better methods of reducing poverty, and other social ills. These age-old problems are getting more serious and there is an immediate need for new methods of resolving our present social problems. The methods can only be invented by a process of action-research which conceives, conducts and evaluates new approaches in real life situations producing usable and effective methods.

The methods that are used today to solve social problems are about 4000 years old, compared to the methods used to solve medical, agricultural, transportation and industrial problems that are about 25 years old.

We could rid society of the age-old problems of racial strife, mental illness, crime and poverty if we would establish social invention centres to create solutions.

INSTRUMENTAL VERSUS ORGANIZATIONAL SOCIAL INVENTIONS

For a decade or more many of our social institutions have received much criticism from the public, their clients and their staffs. An increasing flow of research studies casts very serious doubt on the even minimal effectiveness of schools, penal institutions, welfare agencies, and other organizations that operate for the presumed welfare of all society. The agony of other important institutions, such as the church with its re-examination of its objectives, methods and organization, is also apparent in their search to be of more value to man.

Large bureaucracies are demonstrating their inadequacies with a variety of symptoms including the enormous time required to reach a simple decision, the apparent necessity felt by some dedicated public servants to "leak" secret documents, the continual reorganization of government departments, and their view that increased public relations will help gain public acceptance of certain unpopular measures. The best marketing and advertising programs could not sell the Edsell and the Ford Motor Company simply had to discontinue it and develop different and more acceptable automobiles. In contrast, our governments and social institutions with their power to legislate and regulate people are not as concerned with public reaction. It is a curious phenomenon of the day that although our social institutions are most certainly not achieving their objectives, our governments are consumed with a passion to force manufacturers to give and honour product performance guarantees. We need exactly the same type of guarantees from government agencies and other social institutions. There is a saying that "if the student has not

learned the teacher has not taught" and this could readily become the basis for measuring the extent to which the teacher fulfills his contract with society.

The essential difference between business institutions and social institutions is that in the former the client is king and the employees his servants, whereas, in the latter, the client is the subject and the institution his master. The reason that it is this way is because most of our social institutions were invented without first inventing the procedural or instrumental methods that could make them function well, but then when they were set up they did not attempt to invent better, constructive, relevant methods.

We must, therefore, look at the invention of organizations as greatly different from the invention of procedures.

A procedural social invention is an instrumental social invention in the sense that it is a method that might be used by many organizations in many contexts.

Examples of instrumental social inventions include examinations, grades, instructional methods, curriculum design, mental tests, guidance, probation, instructional T.V., programmed instruction, CAI, behaviour modification, and psychoanalysis.

Examples of organizational social inventions include schools, service clubs, Boy Scouts, mental health association, John Howard Society,

women's institutes, child guidance clinics, jails, community colleges, Y.M.C.A., and churches.

Voluntary organizations such as most churches, service clubs, Boy Scouts, and mental health associations put themselves on the market place to be valued and to survive or fail in accordance with the service they provide.

Government managed institutions on the other hand, such as schools, prisons, and government departments themselves, have no such test, and accordingly, do very, very little to invent better ways of providing their service. They are placed in the enviable position of judging their students or inmates rather than being accountable for their improvement. The seemingly total lack of one single instrumental or procedural invention to increase the reformation of inmates since the invention of workhouses in the 1400's and prisons in the 1700's, is mute testimony to the stagnation of correctional activity. All that has been done in the name of penal reform has been the replacement of physical punishment with psychological punishment within the prisons.

In the case of education, on the other hand, we may see that a reasonable number of procedural inventions have been made in recent decades including programmed instruction, case study method of teaching, computer assisted instruction, standardized achievement tests and instructional television. The fact that these have not been widely used is a reflection of the fact that the organization was invented first.

Once an organization is invented it seldom concerns itself with inventing instrumental or procedural methods for the delivering of its service or objectives, rather, it becomes consumed with developing methods of self maintenance and extension. The restriction of employment to teachers in educational institutions, to social workers in welfare agencies, etc., is intended to preserve territorial imperatives and prevent cross breeding of ideas or methods. Thus, the invention of teachers' contracts, teacher training institutions, jurisdictions, etc., become the focus for social inventions of the organization. It is to be expected, therefore, that most instrumental social inventions will be made outside the institutions in which they should be utilized. This is why we need social invention centres that are separate from service delivery institutions. It is because of the inherent threat to the latter of a new procedure, however, that they do not advocate such research centres. A very interesting example is the College of Education that conducts research on teaching - even on new methods - but does not implement the new methods in its own institution! The difficulty of a social institution in adopting new ways does raise the question of the value of establishing alternative social institutions and removing the monopoly given to most existing social institutions.

The use of audio visual methods of instruction is a very interesting example. The advantages of visual methods are legendary - "A picture is worth a thousand words" - and in recent decades a number of overhead projectuals, films, etc., have been prepared as instructional aids to the teacher. Unfortunately, however, while almost every single school

has at least one movie projector and an overhead projector, some are literally never used, while most are used only very occasionally. Those who have watched programs such as University of the Air, only to discover that the television camera takes you to the professor in front of the chalkboard and leaves you there without any of the instructional methods that can be used on television, know the minimal acceptance that teachers have made of audio visual methods. Documentary television programs reviewing the history of nations provide a far superior method of teaching socialstudies than the common practice of memorizing dates of successions of kings and queens. Yet the old practice continues.

Recently, Sesame Street has demonstrated the value of audio visual directed learning in contrast to audio visual assisted learning. What this means is that the invention of audio visual means of instruction required its own institution (television) to be properly used in fulfilling its purpose. Many other instrumental social inventions are under-used or misused because they are virtual prisoners of old social institutions. Examples of such procedural inventions are:

1. Programmed instruction which is capable of teaching virtually all knowledge without the aid of teachers, classrooms or schools.

2. Achievement tests which are capable of certifying a person's knowledge regardless of whether he got it in school or elsewhere.

3. Human relations training, affective education or Life Skills training that is offered only in adult remedial programs when it should be a part of primary education.

4. Psychological tests that should be used in schools, welfare agencies, etc., to help understand the clients better.

5. Vocational aptitude, ability and interest tests that should be used universally to help students make career decisions.

6. Audio visual directed educational programs which could greatly increase the comprehension of subjects by students.

7. Computer assisted instruction that provides interactive relationship between the student and knowledge.

Each of these instrumental inventions has been only partially implemented in only a few institutions and demonstrate the difficulties of putting new wine in old bottles. The bottles don't get damaged, they just sour the new contents.

Very few organizational inventions have been based on instrumental inventions. One example is the child guidance clinic invented in 1896 by Witmer, which integrated several instrumental inventions, including: psychodiagnosis, case histories and remedial instruction.

Interestingly, a new social organizational invention in 1907 (the Mental Health Association) widely promoted the creation of child guidance clinics, although typical of organizations, the association did not itself create any instrumental social inventions.

In recent years we have seen a great explosion in the number of social organizations, including those typified by the following: Company of Young Canadians, LIP projects of all descriptions, community coalitions, social, welfare and health agencies.

Yet not one of these was based on a social invention. To a large extent they were intended to re-distribute political and perhaps economic power and they largely failed in this because they did not have a new method of achieving re-alignment of power. To a very large extent they relied on three standard approaches: confrontation, negotiation and welfare.

One of the pressing needs for a new social invention today is a method of achieving equality between various segments of society. It is a reflection of the way in which organizations bind up jurisdictions that we should assign the major responsibility for equalizing to education and give the schools the job of undertaking a massive re-education program, when in fact the schools had already demonstrated their inability to educate the disadvantaged segment of the population.

Only after several years of adult retraining which was ineffective on many counts, not the least being a drop out rate of over 65%, was there an acknowledgement that some methods of training adults needed to be created. This gave rise to the Canada NewStart Program in 1967. The first invention of this program was an organizational innovation that involved both federal and provincial departments entering into equal partnership by means of joint ownership and control of an incorporated

society. In this way they were able to overcome the constraints of their own jurisdictions to experiment in comprehensive human resource development methods. The decision to do this was eloquent acknowledgement of the crippling constraints placed by dividing work rigidly into jurisdictions and assigning it to monopolistic institutions. Not surprisingly, however, the NewStart corporations worked only at devising new methods and not at inventing new organizations that could achieve human resource development objectives more effectively than present institutions. Saskatchewan NewStart, for instance, invented methods of individualized instruction and life skills training.

Most organizational inventions have been made to arrange or deliver certain activities in a new or more concerted manner. Examples of organizational inventions include:

- Boy Scouts
- Y.M.C.A.
- church
- various health associations
- child guidance clinics
- schools
- Red Cross
- service club
- charitable foundation

Each uses instrumental inventions, but does not prompt the invention of new methods (a charitable foundation may do so, but not in the area of how foundations should work, although the Ford Foundation recently has at least evaluated its activities in promoting changes in other institutions).

This is not to suggest that social institutions do not recognize that they have problems with their clientele or jurisdiction. The Boy Scout movement, for instance, experiences a tremendous drop-off in interest as compared to the very successful Cub program. Churches are worried about

the loss of youth and indeed almost entire congregations. These institutions, however, largely try to regain their losses by re-arranging their standard methods into "new" programs rather than inventing new methods.

In the field of human resource development, a number of new programs have been instituted, including:

1. Basic Job Readiness Training Program.
2. Work Activity Program.
3. Manpower Corps Program.

Each program permits a mix of training and work experience, and they use similar methods. This is an example of separate but similar programs established by different Departments at the same level of government for the same type of people.

The Manpower Corps Program is sponsored by the Department of Regional Economic Expansion; the Work Activity Program is sponsored by the Department of National Health and Welfare, and the Basic Job Readiness Training Program is sponsored by the Department of Manpower and Immigration.

A caution must be expressed to those agencies that attempt to introduce new programs which are simply old methods in a new organization format: the intentions of these programs are more likely to be great in rhetoric and modest in achievement.

An even greater caution must be expressed to those who expect much through re-organizations of government departments, educational institutions, or other organizations. They may result in greater efficiency once the confusion of the re-organization is overcome, but it would be unrealistic to expect that a re-alignment of old functions would result in dramatic improvements in program effectiveness.

Prisons represent an organizational invention without an instrumental invention. In fact, this is what is wrong with prisons - they are essentially manning depots for criminals rather than correctional institutions. Prisons were invented as havens for convicts to provide an alternative to harsher treatment, like hanging or banishment to Australia. I would predict that we will continue to witness the problems of disturbances in prisons and very high recidivism until such time as we do make instrumental social inventions in the correctional field.

We do see many new organizations, but few, if any, represent any kind of innovation. Yet, we desperately need innovation: we know that our educational, training, penal, welfare, etc., systems are not effecting the social changes that society requires. Crime rate, addiction, language training, racism, etc., all present problems crying for change.

Thus, there is a great need for change, but the fact are that we don't have the methods to achieve the changes. It is not essentially a problem of delivery of services (an organizational problem), but rather that

of better services (an instrumental problem).

How do we determine if we need an instrumental or organizational social invention? The following questions will help:

1. Are methods of resolving the problem available, but people do not use them? (Delivery of services.)

2. Are present methods ineffective with large numbers that try them? (Instrumental.)

We have seen that there is a process of the creation, first, of an instrumental invention and then the organizational invention required to implement it. On the other hand, an organizational invention does not lead to instrumental invention. This latter must be prepared outside the framework of an agency concerned with implementation of social inventions. The creation of social inventions that are organizations may be made to implement known methods (or non methods, such as incarceration). We should not expect new organizations to do things differently, therefore, but rather to be a better method of getting known things done. This would be true of organizational social inventions, too. It should be pointed out, however, that in many, many cases a re-organization is undertaken when in fact what is required is an instrumental innovation, and because of this incorrect definition of the problem much confusion and inefficiency derive but no resolution of the problem (although it may seem lessened as it becomes overshadowed by the new problems created by the re-organization).

When we look at a social problem and are tempted to see the solution in terms of re-organization, I suggest we look again to see if the real requirement is instrumental.

ORGANIZATION-FREE HUMAN SERVICES?

The Special Senate Committee on Poverty was very critical of the organizations that deliver social welfare services. In the Foreword to their report, the Committee wrote:

> The social-welfare structure so laboriously and painstakingly erected in Canada over the past forty years has clearly outlived its usefulness. The social scientists who have studied it, the bureaucrats who have administered it, and the poor who have experienced it are of one mind, that in today's swiftly changing world the welfare system is a hopeless failure. The matter is not even controversial; everybody's against it. But what is to take its place?[1]

The same criticism and the same question may be made in respect of many of the other social institutions that were established for the presumed welfare of Canada and Canadians. The school system, the penal system, the mental hospital system, and perhaps even the church, among others, merit the same judgement and the same perplexity.

With regard to education, David Livingstone wrote, "The modern history of efforts aimed at fundamental change of educational systems has been one of almost continual failure."[2]

Describing social agencies generally, Illich observed that, "Institutions both invite compulsively repetitive use and frustrate alternative ways of achieving similar results."[3]

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1. Special Senate Committee on Poverty, Poverty in Canada, Ottawa, Information Canada, 1971, p. vii.

2. Livingstone, David W., Some General Tactics for Creating Alternative Educational Futures, Interchange, Volume 4, No. 1, 1973, p. 1.

3. Illich, Ivan, Deschooling Society, New York, Harper and Row, p. 56.

The Special Senate Committee did not answer its own question to its satisfaction. It was able to propose an economic answer (guaranteed annual income) for the economic part of the welfare problem, but it was not able to provide an answer for the social part. This paper will attempt to outline some suggestions in that direction.

Much of the criticism levelled at our social institutions has been concerned with two things: (a) the social procedures such as teaching, casework, worship, (b) the organizational procedures of the agency.

Organizational procedures are usually seen as the prime villain in the deficiencies of the social institutions. The bureaucracy of government, education, welfare, and even the church, has been widely criticized. Frequently, professionals in these organizations see organizational procedures as negating the intent of the social procedures of the agency.

The organizational procedures followed by government and social institutions derive from the authoritarian hierarchical precisely structured models developed for the military and large industry.

The conflict between organization and man has been recognized by attempts to introduce human relations programs, participative management and job enrichment in industry; humanized learning and affective learning in schools, but in actual fact, no substitutes have been found for standard organization procedures and these newer approaches have basically been a thin and patchy sugar coating.

Considering the almost inherent conflict between organizational and

social procedures, the necessity of organization itself must be questioned. At first glance such a challenge seems to smart of anarchy, but on reflection it is possible to note a number of neophyte organization-free social delivery systems.

Educational television programs, such as Sesame Street and the Electric Company, and counseling programs such as radio open line shows, crisis centers, computer assisted counseling, and drop-in centers are organization-free social systems. These are similar to the "convivial" organizations that Ivan Illich[4] described and advocated, in contrast to traditional institutions which he described as "addictive".

At perhaps a midpoint between organization-free and organization controlled is the Open University of the United Kingdom, that has avoided many of the bureaucratic structures and constraints of the standard university.

The Open University "multimedia learning system loosely fits the model of a nationally sponsored educational innovation outside of the traditional institutions. The Open University employs a coordinated mixture of instructional techniques including (a) television and radio programming, (b) correspondence and home study programs with kits, (c) face to face meetings with other students and with tutors in specially provided local study centers, (d) short residential courses. Central to the Open University idea are the 250 local study centers equipped with broadcast receiving equipment, audio visual media and tape libraries - in other words, multimedia learning centers integrated with the main university center which prepares

4. Op cit., p. 53-55.

the material to be used."[5]

The difference between the organization-free social program of Sesame Street and radio hotlines, on the one hand, and Open University on the other, is that the former are totally organization free in the delivery of their service, whereas Open University has established a new delivery system with a minimum of organizational constraints on the client, and with several options for his selection in the way in which he utilizes the range of delivery services.

Open University is not simply a new program or course, rather, it is an entirely new system with new procedures for acceptance (not selection) of students, teaching, counseling, etc. The phenomenal success of Open University points to the practicality of creating alternative delivery systems for all social systems that are having difficulty.

It is a trite practice of our time to describe almost all difficulties between individuals, groups or organizations as communications problems. The truth in this may be the possibility that these problems rely on out-moded media for communication. The inappropriateness of the written word in communication in social institutions is perhaps best illustrated by the fact that most written messages for clients of social institutions are phrased in language at a difficulty level equal to that of about second year university, yet most clients are literate at a level less than high school.

The organization-free social institutions do not use the written word, while Open University uses a multi-media battery of communication methods.

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5. Continuing Education for Adults, Syracuse University, No. 154, p. 2.

It might be reasonable to assume that with further experimentation with organization-free social programs society will begin to phase out organization-directed programs, in favor of program-directed organizations with new delivery systems such as exemplified by Open University.

In some cases the innovation may be most effective in its organization-free state. In other instances it may be desirable to integrate a number of innovations into one system. In the case of some social inventions it may not be possible to fully assess the merits of the new procedure until it has been tried in a traditional setting, an organization-free setting, and a new program-directed system.

Traditionally, we have thought of innovations providing incremental improvement in a social system. Perhaps it is possible for the same invention to prompt improvement of geometric proportions when used in an organization-free manner, or in a delivery system designed specifically for the new invention.

A single invention may have profound implications for a major improvement in the human, social or political condition, but it may take many decades before it is used very extensively. For instance, the ombudsman was first invented in Sweden in 1809. The second ombudsman position was not created until 1919 (110 years later) in Finland. The third in Denmark in 1955, and subsequently in 1962 Norway and New Zealand appointed ombudsmen. Since that time many governments have created such positions.

There are a variety of reasons for the long delay between the first invention and the widespread adoption, and these have been documented in reports of diffusion and adoption of innovations in education, agriculture, and elsewhere.

The general findings are that early adopters are more affluent, progressive, cosmopolite, and able than later adopters or non-adopters. Where they are employed in an organization (such as a school board) the employer provides a basic philosophy, organization structure, and risk capital that favor experimentally adopting new methods.

The characteristics of an innovation that is adopted early have been identified by Rogers and Shoemaker.[6] The several characteristics of innovations, as sensed by the receivers, which contribute to their different rate of adoption include:

1. Relative advantage over present methods.
2. Compatibility of the innovation to existing values, past experiences, and needs of the receivers.
3. Complexity or simplicity to understand and use.
4. Trialability or the degree to which the innovation may be experimented with on a limited basis.
5. Observability or the extent to which the results of an innovation are visible to others.

A single invention that can readily be fitted as a component into an ongoing system is more likely to be adopted early in contrast to an innovation that requires a change in the system. The latter may require a series of inventions that will result in several changes in the system. This has been recognized in the twelve stage development model described in chapter one. Stage nine includes the development of the operational system required

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6. Rogers, Everett M., Floyd F. Shoemaker, Communication of Innovations, New York, Collier MacMillan, 1971, 476 pp.

by the innovation, including the needs of the implementers, administrative support personnel, and the monitoring agency.

The "systems approach" to social inventions is extremely important because there is not likely to be a single cure invented for complex social problems. Furthermore, the stagnation of many social institutions inhibits the development of a new system in favor of adding on (however reluctantly) new methods that might become available.

The experimental testing of a new invention can be greatly affected by the context in which it is tried. The factors that bear upon the results include the resources allocated, the dedication of the staff of the organization trying it out, the philosophy and organization of that group, the image of the organization in the eyes of its clientele, the particular clientele that it serves (which has perhaps been attracted because of the nature of current, rather than the experimental, program). It is quite possible that the new experimental procedure and the other procedures of the agency have some self-cancelling features which do harm to a tender new social invention trying its first wings.

The more fundamental the nature of the innovation the less the likelihood that it will be easily inserted into the ongoing program of an agency. Rather, it may be necessary to invent a series of new methods that will present an entirely new way of doing things. It is for this reason that the experimenters need their own experimental agency that they might invent all of the required components.

Many of our social agencies are engaged in the maintenance of their clientele and few deal with development of them so that they no longer need the agency.

A good example is a welfare department which doles out money, advice, etc., but does not have the program for the development of the clientele to the point where they are self sufficient. The staff recognize that they do not serve the clients as they should because of many pressures to do administrative type chores, but few recognize that they do not have the program resources even if they did have the time. When new programs come along, they are not integrated into the system because of the incompatibility of maintenance and development philosophies.

Social inventions commonly encounter a "rejection" reaction from a social institution, and hence, experience slow acceptance at best, impairment generally, and total rejection not uncommonly. This rejection reaction would appear to be a natural physiological function in social institutions as in the human body.

In the case of social inventions, the transplant to an old organization may not be nearly as desirable as the creation of a new non-organization that might incorporate other social inventions. Most of our social institutions are very old and new systems may be required in addition to individual social inventions. Therefore, the experimentation within relative organization-free social systems which utilize the current communications delivery system might be the most suitable for both exploiting the full potential of the innovation and serving the people the way the people wish to be served.

SOCIAL INVENTIONS FOR MENTAL HEALTH PROGRESS

When we look at the history of the treatment of the mentally ill we see a number of important inventions such as shock treatment, pre-frontal labotomies, and tranquilizers. If we go back to 1907 we see another type of invention: a social invention intended to end man's inhumanity to man in asylums and insane hospitals. I refer, of course, to the founding of the mental health association by Clifford Beers, who had, himself, been mentally ill and when he recovered he determined to do something to alleviate the cruelty that was measured out to many patients in the mental hospitals of the time. Over the almost 70 years of its existence, the mental health association has prompted many improvements in the treatment of the mentally ill. But its job is far from done, as you well know. While, generally speaking, more humane treatments certainly prevail over the conditions of the turn of the century, we are still greatly in need for more <u>human</u> methods of treatment. The chemical, electrical and surgical treatments of today benefit a great many people, but too often only by subduing the symptoms and to some extent the person by drugs.

We need far more human methods of treatment than drugs and boarding houses. What we need are <u>social</u> treatments and a number have been invented over the years, including: hypnosis in 1765, psychoanalysis in 1896, psychodrama in 1921, client centered counseling in 1940, and in more

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A talk to the Annual Meeting of Mental Health/Saskatchewan, Regina, May 1, 1973.

recent years reality therapy, encounter groups, life skills training and behaviour modification. Each of these has represented an important contribution to the treatment of emotional illness, but at the same time, we are in need of several more such inventions to provide more effective treatment and social rehabilitation.

If we are really to expect people to fully recover and become human and social equals, we need social forms of treatment that will remove the vestiges of the disease and provide the spirit and skills to live fully in society. Such being our challenge we realize that there are many people in the world who have never been in a mental hospital or psychiatric center who very definitely require social therapy. I refer to the many lonely, pessimistic, anxious and sad people who inhabit this world. Popping a tranquilizer is no solution, for what they need is social not chemical treatment.

I have referred to social inventions and I have given a few examples; now let me give a definition. A social invention is a new law, organization or procedure that changes the ways in which people relate to themselves or to each other, either individually or collectively. Examples of social inventions in the field of mental health include as I have already indicated: hypnosis, psychoanalysis, group therapy, school guidance, psychodrama, child guidance clinics, and the mental health association itself.

The original invention of a mental health association was the Connecticut Committee for Mental Hygiene, founded by Clifford Beers in 1907. The association subsequently invented what it first called White

Cross Clubs, and which we now call Community Service Centres.

The procedures carried out by the Community Service Centres include industrial contracting, occupational therapy and social activities, but nothing new has been invented by the Community Service Centres for the rehabilitation of mental patients. The Centres have been able to use standard approaches with a reasonable measure of satisfaction. This could be said, too, of nearly all the activities of the mental health association.

The fact that the Association has not invented new methods does not infer that it has not been progressive, for indeed, we have some examples in Prince Albert and Edmonton wherein the Association is teaching life skills to former patients. This was instituted within 3 or 4 years of the first invention of a life skills course.

Earlier I said that a social invention might take the form of a law, procedure or organization. Naturally enough one can not say that a voluntary organization can create laws - although it can advocate new laws. Similarly, perhaps, the association has not invented new psychotherapeutic procedures such as reality therapy or behaviour modification. Typically this kind of invention is made by an individual or a professional team working in a clinic or research centre. The Association does and should fund such experimental research. The type of social invention that the mental health association has made is that of inventing an organization. First it invented itself. This sounds like I might be giving god-like qualities to CMHA and, therefore, perhaps I should give credit again to Clifford Beers for fathering the invention of this organization. In turn,

however, the association has invented the Community Service Centre, and what I see it now inventing in Edmonton and in Prince Albert is a fully integrated active treatment social rehabilitation centre.

Let me state what you already know: that mental hospitals, psychiatric treatment centres in general hospitals and boarding houses all to a very large extent represent a custodial approach to the treatment of the mentally ill. I would venture to say that the average psychiatric patient today receives only a few minutes of psychotherapy or social therapy a day. The remainder of the day is spent in sleeping, sitting, walking around, or watching television. A few patients admittedly do receive occupational therapy which, to the extent that it is craft work simply helps consume time, but to the extent that it is socially interactive in the production of plays, etc., can be classed as socially therapeutic.

Hours and hours and hours of idleness in a hospital or boarding house or at home can be accepted if the passage of time is indeed the active treatment agent. The administration of shock treatment or the injection of a tranquilizer may be all that some require. The vast majority, however, require a great deal more. They require an active social treatment program that develops their skills of interacting confidently, competently and pleasantly with other people, that develops their skills of managing their own lives responsibly and appropriately and that develops their acceptance of themselves as normal, healthy, wanted human beings.

What, then, is required is an active treatment social program. I suggest that the component parts of such a program have largely been

invented. I would draw your attention to such elements as psychotherapeutic counseling, group counseling, life skills training, psychodrama, human relations training, reality therapy and certain forms of recreation.

The problem for the patient today is that he or she needs a battery of these treatment techniques but in the rare occasion when they are available they are offered in complete isolation. What, then, is needed is an organization of these treatment forms into some type of social treatment system.

This, I submit, is the type of program required in the social rehabilitation of psychiatric patients and perhaps many who have never seen the inside of a psychiatric centre.

I would like to suggest that the mental health association invent an organization that would bring together these various forms of social treatment, integrate them into a total treatment program and, thereby, complete the work that medications may have started. The invention of an organization to do such work as this would be of as great a significance as the invention of other great organizations such as the labour union in 1696, the YMCA in 1844, the Red Cross in 1864, 4-H Clubs in 1904, Boy Scouts in 1908, AA in 1934, and the Child Guidance Clinic in 1896, and the mental health association itself.

It is usual that new methods of treatment are invented by highly trained professionals who have worked long and hard on their inventions. On the other hand, it is the ordinary citizen who shows his genius in inventing organizations: so it was with Clifford Beers when he invented

the mental health association, with Paul Harris when he invented the service club, with Bayden-Powell when he invented the Boy Scouts, etc.

Now, of course, one person can't invent an organization because it takes several people to form an organization, but they do so because of the inspiration and leadership of one person and go on to make his dream become a reality beyond the leader's wildest dreams. It is a group of laymen who can create an organization and develop a program that uses methods taken from many sources to achieve great goals.

What is required today is a new organization perhaps based on the Community Service Centre, that becomes a very effective social rehabilitation service. This organization can integrate components of recreational therapy, occupational therapy, life skills training, counseling, work experience, etc., to become a fully effective total social treatment program. I am not referring to something that is just a sheltered workshop for people who will never be able to cope with life's stresses and strains. I am talking about a social therapy program that will give the people the skills and confidence to succeed very well.

I say to you that you are the only hope for creating such an organization. The professionals do not seem to be able to do this, for whatever reason I don't know, but perhaps because they don't really understand how organizations work. Governments can not do it because the moment they take over an organization they proceed to de-humanize it and bureaucratize it.

Therefore, if there is any hope for a truly human and effective

social organization that will provide a total, integrated, human, social rehabilitation program it is the CMHA. You can do it if you want. I have seen things happening in CMHA in the past year or two that convince me that you are getting ready to move in this direction. I suggest you start now.

If I may say so, I would like to see each Branch of Mental Health/ Saskatchewan invent a new and better organization for social rehabilitation. First, you start by learning all you can about all sorts of existing programs for the rehabilitation of people with various ailments. Your study of these should include the activities that are carried on and the amount of time spent in rehabilitation activities and the time spent on time-killing activities. Time-killing activities include a great deal of the industrial work done in Community Service Centres. Take a careful look at the rehabilitative activities and ask if there are specific objectives, I mean behaviours that can be seen and described so that you know if the member needs more help or not. All social rehabilitation programs should have behavioural objectives. Behavioural objectives are clearly discernible behaviours such as the following:

1. Looks you in the eye when he talks to you.
2. Initiates conversation with other members.
3. Accepts mildly critical feedback.
4. Gives mildly critical feedback to others.
5. Dresses neatly.
6. Loses a debate gracefully.
7. Interviews other members.
8. Shows visitors around the centre and explains the program to them.

Each social rehabilitation program that has been well thought through

should have clear objectives like this. In looking at them, find out what the objectives are and what parts of the program are designed to provide these skills. This may be difficult because many people who are working in social rehabilitation have not thought in these terms.

Once you have decided on the behavioural objectives for the social rehabilitation program and then examine the programs available including life skills training, recreation, role playing, creative job search techniques, group and individual counseling, work them over in your mind until you have what seems to be a proper mix of these programs. You may decide that you cannot expect people to really become fully socially rehabilitated unless they get a job and so you might also include training in how to get and keep a job, you might decide to provide some form of employment service.

Once you have worked out all the parts of your program you then need to plan your facilities, financing, etc. Fortunately, things like LIP grants are available but you will need more money than is available from that source. Here is where you need to get a top marketing man to help you sell your plan to governments, foundations, service clubs, and other sources of money.

Your next problem is that of program personnel. This presents a real dilemma for a voluntary organization. You must have top calibre people on a modest budget. You can do this, perhaps, in a combination of ways including:

1. Obtaining part time help seconded from social service agencies.

2. Getting people trained through occupational training schemes.
3. Hiring good people.
4. Inservice training program.

However you get your people, you do need to have a deliberate program of inservice training in order to build skills and enthusiasm.

Good people can interfere with each other, however, and clients can distort the program intentions if there is not a good program schedule. You have to make it clear to all who does what, when. This is important for efficiency, it is true, but it is also important in social rehabilitation for a disjointed program can mean that some people can just sit or play around without really being involved in the program. This requires good organization.

Another problem might be that of getting people to come to the program. You cannot count on referrals from the psychiatric centre or social workers or professional people because you will find many of them ambivalent to your program. So you have to recruit people yourselves. Again, you might well need the help of your marketing man because you might have to sell the program like toothpaste. To do this you may need paid advertisements, radio and T.V. appearances, newspaper stories. You may decide to conduct demonstrations at the psychiatric centre, for social workers, for Manpower, Unemployment Insurance and Welfare counselors and for others who are in a position to refer people.

Realizing that most, if not all, of your clients will come on a tentative, perhaps leary, basis, you have to have a special welcome

procedure that makes them glad they came and decide to come back tomorrow.

This is obviously a big organizing job and this is why the professionals have not done it. Only laymen are good organizers. Therefore, it is your duty to select and integrate the appropriate programs and get an effective organization together to conduct a social rehabilitation program.

If you do this it will rank with the invention of the Mental Health Association by Beers in 1907. It seems a shame that we have to go back 66 years to the most recent invention of a mental health organization. I think it is time for another.

SOCIAL INVENTIONS FOR EDUCATIONAL OUTREACH PROGRAMS

It has taken some 4,500 years since the invention of the school in Sumer to develop the educational system to its present state. Over this time educational progress has taken three forms: new laws, new organizations, and new methods. In this context I refer to the creation of a new law, organization or method as a social invention, for I believe it is important that we recognize that progress in education comes through social inventions just as progress in communications comes through electronic inventions and progress in medicine comes through chemical inventions.

This comparison can be taken further to relate the resources devoted to educational, medical and communications research. One does not need figures to illustrate the imbalance that exists between the money spent on human science versus natural science research. While I do realize that much educational research is being done in Canada by a variety of people and organizations, I question the impact and value that such work, done largely by individuals working in isolation from other researchers and often on a part time basis, can have in the development of new improved methods or organizations for education.

If we look at the organizations that have been invented in Canada

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alone to provide educational outreach, we discover that they have virtually all been inspired and created outside the educational system. I would draw your attention to the following organizations that were invented solely to provide educational outreach:

Women's Institute

Antigonish Cooperative Movement

Frontier College

Farm Radio Forum

National Film Board

I should like to emphasize that I am referring to Canadian organizational inventions and not including the large number of foreign inventions that are widely used in Canada, such as represented by the little red school house, community colleges, agricultural extension, university extension, correspondence schools, Boy Scouts, YMCA, and many more. Indeed, the array of organizations for educational outreach is quite amazing.

Contemplation about the essential differences between outreach programs conducted in Canada by the above organizations leads one to analyze them according to the domains of educational objectives as set forth by Bloom, Krathwohl and their associates. As you know they described three domains: the cognitive, affective and psychomotor.

The cognitive domain deals essentially with knowledge and can perhaps

be typified by mathematics, communications, science, social studies and the other subjects of the curriculum.

The affective domain deals with attitudes and has not been reflected in the curricular design until very recently with some experimentation with affective curricula, humanizing learning programs and life skills education. This domain, however, has historically been of focal dedication for the other organizations such as the Antigonish Movement, and the National Film Board, which have been frankly concerned with motivation and social mobilization. They attempted - and I think succeeded - in integrating the cognitive and affective domains. In fact, John Grierson, the first Commissioner of the National Film Board, often lectured on the virtue of propaganda.

The psychomotor domain covers motor behaviours such as used in manual tasks. It includes verbal behaviour such as expected of a persuasive salesman, and it includes the behaviours performed in union negotiations. The psychomotor domain is one that is largely ignored as far as education is concerned except in certain manual or other vocational training programs. Students may be reprimanded about their social behaviour, for instance, but they are not taught the skills to behave properly or appropriately. This kind of training is found in human relations training in industry, public speaking courses, salesmanship courses, management courses, leadership and life skills courses. These courses are (like the affective courses) outreach or inhouse programs of agencies other than the educational institutions.

The question then arises as to whether other organizations have had to take on these affective and psychomotor domains of learning because the educational system did not reach out beyond the cognitive domain. I am, therefore, suggesting that outreach is not purely physical or geographical, but also philosophical or educational. There is a need, I would suggest, to extend the boundaries of the curriculum to include not just new knowledge disciplines but also to include new types of objectives and especially those in the affective and behavioural domains. One example that comes to mind because I have been involved in its development is that of life skills education.

Life Skills - an inhouse outreach program

Life Skills are defined as the human relation and problem solving behaviours used appropriately and responsibly in the management of one's life. Life skills education may be largely cognitive; affective and psychomotor, or it may be cognitive, affective and psychomotor.

More and more educators recognize the need of many students for training in "life skills" as well as in mathematics and English. The teachers recognize that many of their students do not handle their lives as well as they might, and in fact, suffer personal, financial, legal, family, social, employment and other problems that they themselves could resolve if they had better life skills. Because some people do not, for instance, handle their money responsibly, certain teachers are inclined to add a lesson in the mathematics program on budgeting. This is purely

a cognitive approach to the problem.

It is true that many people do not know how to calculate budgets or to compute the best buy of a given product. But the problem is deeper than ignorance. The nature of the student's problem often rests in his priorities (e.g., immediate gratification or impulsiveness), need for status (and hence buying top of the line, such as a $1,000.00 colour television set), in excessive indulgence, domination by others, inability to say no, fear of using community services, or in other causes.

The second alternative is to have the traditional disciplines and life skills education co-exist with the usual subjects taught in the customary manner, and life skills taught in an expressive and behavioural format.

Life Skills education is an activity program. The adult student actively seeks knowledge through lectures, panels, symposiums, reading, audio-visual aids, discussions, visits and tours. Insight and understanding is gained through feedback techniques, problem-solving groups, experimentation, task assignments, situational tests and simulated activities. Skills are gained through practical experience, role-playing, drills and demonstrations. Interests are developed through plant tours, audio-visual aids, reading, creativity exercises, role-playing and group discussions. Students gain self-confidence through an observable increase in skill competency based on performance and feedback on performance

obtained from other students and analysis of video-tape feedback.

The third alternative integrates the cognitive, affective and psychomotor approaches to teaching life skills. In this way the main purpose of life skills training is to provide the knowledge, attitudes and concrete skills needed to handle life responsibilities more effectively. The initial focus, therefore, is upon the areas of life responsibility (self, family, community, leisure, job), and it is these that define the curriculum subject areas, rather than the more traditional subject groupings such as literature, economics or mathematics. The effective handling of any of the areas of life responsibility requires that the students learn subject matter from a variety of disciplines. For example, a student will learn that planning a home entails knowledge of mathematics, reading, economics, geography, aesthetics, and many more subjects. By focusing on the situation in which the student must apply integrated knowledge, the teacher forcefully demonstrates the pragmatic value of knowledge in each of these subject areas and can, therefore, more effectively motivate the student to want to acquire additional knowledge. Mastery of formal subject matter in each of the traditional subject areas can proceed very effectively in this manner.

Such a life skills curriculum requires each student to confront each of the areas of life responsibility by helping him to derive and apply knowledge from each of the following subjects: communications, mathematics, psychology, biology, health, careers, marriage and family, economics,

geography, politics, law, anthropology, sociology and the arts. This knowledge would be gained and applied through a variety of educational activities including discussing the subject, analyzing what has been said, reading graded materials about topics, viewing films, conducting surveys, role playing, field trips, interviews, writing reports, presenting reports, making visual displays.

In this way the curriculum is an activity program. Instead of being a passive recipient of knowledge, the student is actively engaged in deriving, collecting, discovering and utilizing information to solve problems. In mastering a typical curriculum unit, he discusses the subject, analyzes what has been said by others, reads graded materials, views films and visual presentations, broadens his experience with the subject, gains information by conducting surveys, engages in role-playing, takes field trips and interviews people. He writes reports and makes films and presents these to the class, staff members and others. He researches, compares, plans, computes, observes, thinks, dramatizes feelings, visits, leads and follows - in short, engages in activities that fit into the broadest range of educational techniques. In this way a true integration of knowledge, feelings and skills can be acquired to fit the person for competently managing his own life and career.

Such a comprehensive approach to education would most certainly be a valid inhouse outreach program.

Social movements and educational outreach

An interesting phenomenon of virtually all social movements is that they recognize the need for an educational component in their programs and in their organizations. For instance, the labor movement set up a variety of worker education associations, the agrarian movement resulted in agricultural extension, and the native organizations today are establishing their own training institutions such as the Indian Cultural College in Saskatoon, Oo-za-we-kwun at Rivers, Manitoba, Alberta Indian Education Centre, Edmonton, and Pe-Ta-Pun in Lac La Biche.

An outreach program that does take into cognizance what is happening in society must do more than deliver its traditional offerings in remote locales. It must present courses that are appropriate to the continuing development of society in the area. In these parts of Canada where we are seeing the social mobilization of Native peoples, and perhaps other disadvantaged groups, it is important to understand and develop the relationship between education and a social movement.

Blumer said that social movements stem from "gradual and pervasive changes in the values of people - changes which can be called cultural drifts. Such cultural drifts stand for a general shifting in the ideas of people, particularly along the line of the conceptions which people have of themselves, and of their rights and privileges. Over a period of time many people may develop a new view of what they believe they are entitled to - a view largely made up of desires and hopes. It signifies

the emergence of a new set of values, which influence people in the ways in which they look upon their own lives ... people have come to form new conceptions of themselves which do not conform to the actual positions which they occupy in their lives."[1]

The stages of development of a social movement were described by Blumer as:

1. People are restless, uneasy, they are susceptible to appeals and suggestions that tape their discontent and hence the agitator is likely to play an important role.

2. Popular excitement stage is characterized by more milling but not so random or aimless. More definite notions emerge as to the cause of their condition and as to what should be done in the way of a social change. There is a sharpening of objectives. The leader is more likely to be a prophet or a reformer.

3. Formalization stage, the movement becomes more clearly organized with rules, policies, tactics and discipline.

4. Institutional stage, the movement has crystallized into a fixed organization with a definite personnel and structure to carry into execution the purposes of the movement. The leader is likely to be an administrator.

It is the common experience of social movements that social institutions do not facilitate their progress but on the contrary attempt to

manage and control their members through the traditional services and sanctions. This is apparent when differences in social class types and needs are not reflected in public policy and programs which have been formed for the presumed welfare of the lower classes. Any social reform directed at the shortcomings of people, rather than of society, is handicapped by the humiliating imputations of its policy.

There is an element of doubt, for instance, whether education and training alone will significantly reduce poverty or other afflictions of the disadvantaged. It is true that the present middle classes have generally achieved their status because of education and training, but also because their value system was identical to that of the larger society. Education agencies serve as perpetuators of the present culture, and, therefore, have not facilitated the development of people or groups engaged in a social movement except to help them adapt to society and adopt its ways.

Adult education must realize that to be effective in some areas it must involve itself actively with groups seeking change in the fabric and nature of society. In this way adult education would assist groups to define and plan for action, to mobilize resources, to facilitate co-ordination among various groups. Adult education ignored the signals of the past few years and did not prepare for the present situation, and in particular did not try to shape the activist process but now must educate in the ways of changing society. I believe that by being involved with

such groups and speeding the process whereby they develop member education programs and community education programs, educators can assist the maturation of the groups and the accommodation of and to society.

In the next decade there will be major developments in the direction of organizing many special interest activist groups, and as they gain an organization, a position, and a voice, they will make their voice heard increasingly, and will call for a greater, if not a predominant, role in determining the form and content of human services. Their power will come not only from the democratic ethos which, under today's conditions, is becoming to be understood increasingly to imply a switch in the weight of power over policy, from social agencies and community power structures to service recipients. I think it would be wise for a community college to provide staff to help such groups prepare the educational component of their programs.

Adult Educators and Community Organizations

If a community college is to serve the educational interests of community groups and to foster community development, it must realize that educational decisions are really political in terms of kinds of programs, for whom, objectives, budgets, etc.; and adult educators should take an active role in the decision making.

Three basic premises may be adopted in this context:

1. adult educators must perceive the educational development of human resources as the central contributing force in the socio-economic development of communities;

2. adult educators must conceive of continuing education as a non-partisan legal-political process as well as an educational process;

3. for program development and evaluation adult educators must use theories and practices that have been designed for the explicit purpose of using education as an effective instrument for socio-economic development in the reorganization of human communities. Most educational theory is based on individual development and not on the utilization of knowledge and, therefore, new theories are required for training adults.

A community college established at the local level could provide a focal point for social development efforts within one or more communities. In this role it is expected to

- significantly and meaningfully involve the special concern groups in developing and carrying out their programs.
- mobilize public and private resources in support of community development.
- co-ordinate efforts throughout the community so as to avoid duplication, improve delivery of services, and relate programs to one another.

- plan and evaluate both long and short range strategies for overcoming problems in the community.
- serve as an advocate on matters of public policy and programs which affect their status, promoting institutional improvement and desirable changes in social policies and programs.
- encourage administrative reform and protect individuals or groups against arbitrary action.

I would like to suggest, therefore, that in looking at outreach we are not looking solely at organizational outreach, but in fact, instrumental change in the curriculum to be offered and in the role of the educator.

Reorganization versus New Methods

I wish to stress this point because too frequently organizational change is mistaken for substantive change. They are two very different things and changing the organization of the delivery system itself will not change the nature of what is delivered, at least it is not going to change it for the better very often. There seems to be an essential confusion in the thinking of public policy personnel who are continually reorganizing government departments (which usually results in a minimum of six months delay in effecting the changes they want) and fail to see that the fault is not with the organization but with the methods that it uses. We seldom hear talk about the reorganization of a general hospital

because of the number of people who get sick and die. What we hear is let's give more resources to invent a cure. There is a clear separation between the instrumental agents (drugs, surgery, etc.) and the organization (the hospital). This distinction is not always clear in the human services and because we have not made it clear we have found they are being reorganized when they should be given new types of methods to improve education.

I do propose, therefore, that in order to effect a good outreach program we do need to ask two questions:

1. What program do we need?

2. What type of organization do we need?

I realize there are many other questions to be asked including location, recruitment of students, selection and training of instructors, financing, which are only a few, but I would like to limit my remarks to program and organization.

The course offering in an outreach program should, I would suggest, encompass the following methodologies:

1. Individualized. The purpose of the individualized process is to plan, provide, and conduct a battery of learning situations tailored to a student's characteristics as a learner. The process adapts instruction to the individual student and a wide variety of learning

materials may be used which allows the instructor to prescribe according to the personal level and needs of each student. Students can then work at their own speed, exactly where their need is.

2. Prescriptive. The prescriptive process is an integrated scheme of placement and diagnosis, prescription according to need and evaluation to see if the student has achieved his objectives. Combined with individualized instruction or a modular curriculum it permits a student to start at his present level of knowledge and proceed to learn what he needs to know.

3. Generic. This pertains particularly to occupational training most of which now is job specific and an institution can offer very limited job training because of the costs of equipment, the great variety of jobs and the relatively few students interested in any one job. The generic approach identifies clusters of core skills in three occupational areas - dealing with data, people and things - and provides training by prescription for a given occupation. The hands on experience may be done in the training centre or through work experience.

4. Three Dimensional (Cognitive, Affective and Psychomotor). Briefly this would emphasize a competency based curriculum rather than just a knowledge approach.

5. Learning Resources Centres. Consistent with the generic skills, the variety of methods by which people learn and the individualization,

the training centre should be designed around a learning resources centre.

6. Socially Dynamic. Outreach education should be involved in community development, social movements and social action by integrating an educational influence to the legalistic or activist social mobilization movements.

The above assumes that instruction will take place largely in the classroom type situation. If outreach education is to take place through a communications satellite such as Anik, then we might find that other criteria are more important. Here I refer to programs that might be modelled after Sesame Street, the Electric Company, etc. I shall not, however, deal with these or computer assisted instruction on the assumption that they are not within the normal scope of outreach projects in such remote areas as northern Canada.

Finally, if education and training are to address the needs of groups engaged in some form of social mobilization, a dynamic public administration curriculum may be required that the new organizations may learn to negotiate effectively with government agencies, and organize their own social development.

The single invention, the system and the organization

Normally, it takes 35 years for a new social invention to be adopted

in half the appropriate institutions. One reason for this is that a new method can not be introduced into an institution without affecting other procedures and perhaps even the organization itself.

Programmed instruction, for instance, involves a considerable change in the practices of the students, teacher, principal and school inspector. The adjustment may not be difficult for the student because the method does give him a ready way to measure his own learning. For the teacher, on the other hand, there is a whole new style to learn for now he is a consultant or adviser to the students. No longer is there a role for him to express his knowledge, to prepare his lessons, to teach his class, to prepare examination papers and to grade students. The principal no longer has his methods of assessing the teacher such as attentiveness of the students to the teacher, quality of lectures delivered by the teacher, knowledge gains by the students attributable to the traching. The school inspector is similarly afflicted.

This is not to suggest that the teachers are redundant for they are not, but their roles must change. So must the roles of the students, principals and inspectors. The power to change may not be in their hands alone. There may need to be new methods invented for the students, teachers, principals and inspectors, and hence, one major invention such as programmed instruction may require an entire constellation of inventions. It is for this reason that the inventors must not be content to test the value of their creation in the laboratory but they must also develop the ancillary

methods that are used in the system by the institution. No single social procedure stands alone for each is part of an interrelated system and it is important that the appropriate system be invented for a radically new invention.

Normally, the organization attempts to adapt an invention to its own ways rather than adopt the invention and itself adapt.

If we are to serve the people of the north we may have to invent new education and training institutions with new roles and programs.

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THE ORGANIZATION OF SOCIAL INVENTION CENTRES

The experimental invention of a new social procedure is a risky endeavour, because it may provoke untoward reactions including some public criticism. For this reason (as well as those cited on pages 8-10) governments, universities and other social agencies are reluctant to experiment with new methods of dealing with people, and they are particularly reluctant to experiment with people in the development of entirely new methods.

In the middle of the 1960's, therefore, when the federal government did see the need to develop new methods of training and counseling adults for its Manpower Training Program, there was considerable attention given to the question of who should conduct the action-research required. A prime consideration in these discussions was the ability to make mistakes, acknowledge them, and continue to experiment. Government departments and agencies do not normally have this ability because of their defensive posture required by the fact that their every act may be scrutinized and used in the legislature to cripple the agency itself.

Companies, on the other hand, do not have the same mortal fear of innovation because the forces of competition require that companies continually introduce new goods and services. Frequently, these innovations are not successful in the market place, and it is necessary for the company to discontinue an item or an entire product line and to experiment with new ones. This is normal practice for companies, but not for social institutions, and hence, the corporate posture has an appeal to the social inventor.

The first federal/provincial program for the experimental development of social inventions was in the field of new methods of human resource development. This was the Canada NewStart Program which was established in 1967 by the Department of Manpower and Immigration and the departments of education of Alberta, Saskatchewan, Nova Scotia and Prince Edward Island. Subsequently, in 1968, federal responsibility for the NewStart Program was transferred to the Department of Regional Economic Expansion.

In each province where the program was put into effect it was organized as an incorporated society, jointly owned by the federal and provincial governments to achieve related federal and provincial objectives for their separate jurisdictions. This organizational device had no precedent before the NewStart Program.

The Constitutional Question

There were several considerations taken into account in deciding the structure for the NewStart experimental training projects. The decision in favour of organizing the research program under the provincial companies or societies acts was taken only after careful analysis of other alternatives which could be provided by the Technical and Vocational Training Assistance Act (which was in effect at that time), a new Act of Parliament, and the Companies Act of Canada.

Section 7 of the Technical and Vocational Training Assistance Act read as follows:

"7. (1) The Minister may undertake and direct research in respect of technical and vocational training, and without restricting the generality of the foregoing, may undertake and direct research in respect of any of the following matters:

a. trade analysis courses content;

b. training aids, examinations and standards;

c. the changing needs of the economy for trained workers;

d. the relationship between technical and vocational training and the needs of the economy; or

e. any studies that, in the opinion of the Minister, would assist in improving technical and vocational training in Canada.

(2) The Minister may, where he deems it appropriate, undertake and direct any research referred to in sub-section (1) in co-operation with any province or all provinces.

(3) The Minister may collect, compile, analyse, abstract and publish information relating to any research undertaken and directed by him pursuant to this section."

It may be questioned why, with this authority at hand, the federal government wished to accomplish the same thing by another means, namely,

the incorporation of provincial corporations.

In assessing the suitability of this authority to mount the program it was felt that the NewStart research project required:

1. a high degree of autonomy from direct control by either the federal or provincial governments;

2. freedom from governmental staffing problems (i.e., the provisions of the Civil Service Act) and procurement problems (i.e., the Department of Supply and Services);

3. freedom from the appearance of a direct federal intervention into an area - the field of education - in which some provinces have indicated sensitivity in the past.

The most important problems were the staffing and procurement problems associated with normal government organization, and the desire to have the co-operation of the provinces in implementing the program under consideration. None of these problems could be overcome by the authority provided in the Technical and Vocational Training Assistance Act, and some other form of authority was accordingly sought.

Having rejected that authority, an alternative would have been the creation and passage by the Parliament of Canada of a separate Act which would bring into being the research organization in question. The particular advantage of an Act of Parliament would be that the organization could be tailored exactly to the felt needs for the program. The National

Research Council is an example of an experimental centre established by the federal government by a specific Act of Parliament, yet having co-operative research projects with provincial research councils - and, I believe, providing funds to these latter organizations.

This solution, however, was rejected also on the footing that it was another example of direct federal action in a field related to education, and again it was desired to solicit the co-operation of the provinces in carrying out the scheme.

Another solution to these problems might have been to incorporate a company under the provisions of the Companies Act (Canada) Part I, and take advantage of the provisions of the Government Companies Operations Act. This latter statute, applicable to companies incorporated under Part I of the Companies Act, all of whose shares are held by the Government, provides that employees need not be hired pursuant to the provisions of the Civil Service Act, and it also has the advantage that under certain circumstances the employees may gain the benefits of the Public Service Superannuation Act. Another possible advantage was that such a company could operate projects in various provinces more or less in the form of branch offices of the central company.

This solution was rejected, however, principally for the reason that again it had the appearance of a federal intrusion into the education field and it was desired so far as possible to prevent this appearance. It was also thought more likely that provincial co-operation with the scheme would be forthcoming if the provinces were given an opportunity to

participate at the outset. Obviously, a solution along the lines of the National Research Council and provincial research councils would allow for better federal/provincial collaboration than could be done under the Companies Act. At that time, however, the country was faced with a minority government and a slowdown in legislature productivity because of the flag debate. (One province had indicated that it was prepared to go to its legislature for an act to set up a NewStart project, but at the federal level this was out of the question.)

Federal/Provincial Corporations

Accordingly, the solution adopted was that of the incorporation of a provincial society to operate within a province. It was felt that this form of organization would meet the requirements set forth above, namely, autonomy from direct control by either the provincial or federal governments, freedom from governmental staffing and procurement problems; it would afford opportunity for a province to co-operate in the formation of the society and in the appointment of the directors thereof and approve the plan of operations of the society and avoid the appearance of federal intrusion into the sensitive area of education. Additionally, it would free the research organization from the typical restraints to be found in the federal and provincial educational and administrative structures.

The authority to form incorporated societies with provinces was already within the jurisdiction of the government and, therefore, there was no need to seek legislation.

It was readily apparent, then, that the device of a jointly owned incorporated society has several advantages:

1. its objectives can meld different but complimentary federal and provincial objectives.

2. it can unite what the federal government separates into federal and provincial jurisdictions (financial incentives for social programs vs. methodology and delivery of social programs).

3. it can permit a more rational apportionment of the costs of the work. For instance, similar experimental work conducted by a province under the terms of the Canada Manpower Training Program would be reimbursed for only 50% of its costs even though the federal government pays 100% of the operational costs of the training program. In other words, the federal government asks the provinces to pay 50% of the research costs of a fully funded federal program! The 100% federal costs worked out for the federal/provincially owned NewStart corporations was much more sensible when the results of the work were to be used in the 100% federally funded CMTP.

4. it can permit (indeed require) integrated activity across federal and provincial jurisictions. For instance, NewStart operated in the federal jurisdiction of recruiting people for training, selecting them for training, placing them in training, and placing them after training. NewStart's major activity, however, was in the provincial jurisdiction of training methodology.

5. it can permit action without the interference of all the abominable no-men of public service commissions, public works, public purchasing agencies, etc.

To ensure the power of the executive director, and hence the "autonomy" of the project from various vested interests, he was also made chairman of the board of directors, and of the society itself. The structure was established to give one man (the executive director) about $1,000,000. a year, and a great deal of freedom to do with it what he would. There was no provision made for effectively monitoring the projects or asking the executive directors to be accountable for their experimental programs. (The Auditor General did check the financial performance.)

A Central Technical Support Agency

A "Technical Support Centre" was established (within what is now known as the Social and Human Analysis Branch of the Department of Regional Economic Expansion), to assist the NewStart corporations, but it never realized a substantially influential role. This was anticipated by the Quebec Minister of Education at the federal/provincial conference of January 13, 1966, when he asked if the Technical Support Centre would be given as much autonomy from administrative constraints as the projects were to receive. The Deputy Minister of Manpower and Immigration said the Technical Support Centre would get such freedom, if necessary.

The role of the Technical Support Centre in assisting the NewStart societies was to include the following activities:

1. gather information on existing programs and techniques.

2. anticipate some of the needs of the NewStart corporations by developing hypotheses, methods and materials for their use.

3. at the request of corporations, develop specific methods and materials for their use.

4. provide continuing consultation and exchange of information with and between the corporations.

5. encourage and assist the corporations to experiment with various methods.

6. with assistance of the corporations, design methods of evaluating the program.

7. collate and evaluate the total program and prepare methods and materials for widespread use.

8. provide administrative guidelines to ensure that expenditures are within the limits of the NewStart program.

The Role of the Executive Head

The creation of jointly owned federal/provincial societies was, then, something of an innovation which seemed very sensible. The provision of the power to the executive director was done equally deliberately, but whether it was as wise has yet to be decided. Interestingly enough, the

structures of crown corporations were carefully examined in selecting the organizational model, but the roles of agency heads were not. When one examines the roles of the heads of the Bank of Canada, the CNR, CBC, Polymer, NFB, NRC, etc., one does note that John Grierson of the National Film Board, A. D. Dunton of the Canadian Broadcasting Corporation, and James Coyne of the Bank of Canada were men who performed their roles very differently from others in the same jobs. Therefore, to what extent the job can shape the man is questionable, but it is quite clear that the outstanding people had a very clear definition of their mission.

The roles assumed by the heads of various government corporations, including C. J. Mackenzie of the National Research Council, Dunton of the CBC, Donald Gordon of the CNR, Grierson of the NFB, and H. M. Tory, founder of NRC and several universities, represent the only Canadian tradition that might be followed. On the other hand, the United States has a long history of a great many private and "semi-autonomous quasi non-governmental" organizations which serve as training ground for both directors, executive directors, and management staff for foundations or government supported projects. The various leaders of the Company of Young Canadians did not provide admirable models; although they were noble people they did not have an adequate definition of themselves in their role as director.

The role that the executive director of a NewStart corporation defined for himself in terms of the work of the society, and relations with the two levels of government who appointed him, was very critical

to the outcomes achieved. Some NewStart executive directors had a very distinct definition of their mission and role, and others seemed to have a confused conception of what they were doing.

The freedom accorded the executive director was both a strength and a weakness depending on the individuals involved. Certain organizational changes could have been made in the structure to ensure some greater adherence to the intent and principles of the program even if the role performance of the executive director could not be altered. Some suggestions for this would include:

1. mixed board of directors, including outside directors as at present and some directors from each level of government, some staff of the society could also be included on the board.

2. the executive director not serve as the chairman.

3. a monitoring system which would require quarterly, or at least annual, program progress reports.

4. a system of determining research priorities and assigning them to the societies. This is the system used by the Department of Agriculture in assigning specific research projects to certain experimental farms. It would have prevented the great overlaps of experimental courses worked on by almost every NewStart society.

No federal department has a real conception of the methods of social invention or the stages of successive approximations required by social

institutions to become the organizations they should. Although there are interminable reorganizations that take place in federal departments (the creation of a Department of Industry out of Trade and Commerce, and then putting them back together after a few years is only one of many examples), these changes are purely organizational and avoid the real issue. Too often governments rename programs rather than improve the programs themselves.

The question of the appropriateness of the provincially incorporated, jointly owned society must re-open the examination of the other forms of organization originally considered. At the present time the federal government is spending 20 times as much money on physical science research as on social science research. (This is why we are still grappling with old historic social problems such as prejudice, racial strife, linguistic antagonism, poverty, illiteracy, crime, etc.). It is also why technological inventions (e.g., the car and television) have a greater influence on our social life than do social inventions. Should the government decide to right the balance and significantly increase social research funds, then the organizational structure of social invention centres becomes very important. As a matter of interest, the NewStart program was the largest single project using social science research dollars in 1970. Therefore, the NewStart corporations on the one hand, and traditional government departments on the other, represented the two major distinct organization structures carrying on social research. If the government were to dramatically increase the funds for social research, should it be channeled into organizations similar to NewStart societies?

The model presented by the National Research Council may be more appropriate in that (a) legislation could be enacted setting forth specific parameters of activity, (b) it would provide the authority of Parliament over the agency more than exists with the society, and (c) it could provide for certain controls such as the Financial Administration Act. Some problems might be encountered because of the federal government's view of the constitution. For instance, social research requires that the experimenters do things to, for and with people (e.g., train them, pay them, and collaborate with them). Therefore, the actual projects conducted at the federal and provincial levels must cut across the so-called jurisdictions of federal and provincial governments. The NewStart program did this very well. Similar provisions would need to be incorporated in any new social invention centre. The federal government might feel that it would be easiest to delegate all social experimentation to the provincial level, but in so doing, it would have to be prepared to abdicate its priorities for such research (as say the invention of better methods of teaching language, the invention of better ways of manpower training, etc.). It would also have to abdicate its right to require experimentation with any given methods of language training or whatever.

It is unlikely, however, that the federal Parliament would enact any legislation setting up a federal agency and give it some powers to take action in provincial jurisdiction. The corporate structure as represented by NewStart, therefore, would seem to be the most appropriate. The one major change, however, would necessarily be the incorporation of

a federal society which could itself (a) fund regional or federal/provincial research societies, (b) conduct research and development itself, and (c) provide the services of a technical support service to the federal/provincial societies. The federal society should have directors appointed in collaboration with appropriate provinces because of the crossing over of jurisdictions that is entailed in experimental social research.

The corporate form of organization was selected for the NewStart progrm because it permitted equality between governments in directing the program and because it permitted the project to operate in both jurisdictions. Such jurisdictional problems are not found only between levels of government. Indeed, too frequently, they exist very much between departments at the same level of government. At least three federal departments have identical programs of work orientation for the disadvantaged (Work Activites of National Health and Welfare; Manpower Corps of Regional Economic Expansion, and Basic Job Readiness Training of Manpower and Immigration). Three federal departments that pay people who have inadequate incomes have entirely different programs for them: welfare allowances for the very poor, insurance payments for the unemployed, and allowances and training for those in Manpower training. A corporate form of organization could permit more integration of these or other services that present legislation tends to set apart.

Adoption of Innovations

Finally, it should be pointed out that government departments operate

as monopolies within their jurisdiction. Sometimes such agencies are not able to adapt sufficiently to adopt new social inventions. A similar situation would have been to expect the railways to invent a better alternative means of transportation. They were not even prepared to adopt the car when it was invented. We would still be in the railway age, and the car would still be an awkward means of transportation if the automobile had been given to the railways to develop or implement after it was invented.

Yet, this is precisely what is done with our social problems and innovations. If a new educational method, such as programmed learning, is invented, which does not require a stand-up teacher, it is assigned to stand-up teachers to try it out, and naturally, they find it isn't very good.

For the same reasons there has been little progress in the reformation of criminals since Pope Clement invented penitentiaries in 1700. Research and innovation in prisons has been assigned to prison officials, and they are no more likely to come up with a new method than the railway might have invented the car. The invention of the prison was made by a Pope, not by people engaged in handling criminals, and better methods of penal reform will be made only by people who have no direct or indirect interest in maintaining the present system.

It may be desirable not only to assign research and experimental programs to corporate organizations, but also to establish corporate bodies to implement new programs rather than to assign them to traditional government departments which normally take 50 years to implement a new idea in half of their programs.

LOCATION OF SOCIAL INVENTION CENTRES

There are several important issues that must be considered in deciding the location for a social invention centre. Among them are the following:

1. A good library with up to date acquisitions in the subject matter of the projects undertaken by the centre. The library must be a part of the social invention centre itself or at least in the same building complex. The library is used extensively during the formulation of the concept which will be researched and developed. The library must be not of books and periodicals alone, but also of program materials that have been used in related projects. This will include instructional materials, tests and other devices used in human resource development. The availability of very large collections such as the Educational Research Information Centre (ERIC) on microfiche, at modest cost enables remote libraries to have an up to date and fairly complete library. One requirement to fully utilize this system, however, is the capacity to search the literature via computer. This requires access to an IBM 360 computer which is available in most major cities in Canada.

2. Access to a computer for literature searches as described above and for the processing of evaluation data. It is not necessary that the computer be in the immediate area unless the volume of work is such as to require social invention centre staff on a full time basis to be involved in the programming for computer runs. This is not generally required in social invention centres.

3. Access to professional and special services such as consultants, professional groups, other relevant specialized libraries, university personnel, etc., to permit the ready testing of ideas, the informal exchange of ideas and the more economic obtaining of contractual professional services. The larger the city in which the social invention centre is located, the more readily available are such services. On the other hand, the larger the centre, the more expensive many of these services are. However, as with many other things, the price does reflect the value and, therefore, the larger the centre the greater the benefit to the centre.

4. Access to decision makers is an important consideration. A social invention centre has many decision makers that it must constantly cultivate in order to (1) carry out research and development that it thinks is required, (2) obtain necessary approval in terms of funding, staffing, facilities, etc., (3) obtain approval for experimental field tests of new methods being developed, (4) make arrangements to gather data through surveys and other means, (5) promote adoptions of the methods developed, (6) obtain feedback from users to gain information that can be used in re-development. All of this requires a constant interaction of staff of the social invention centre with a wide variety of federal, provincial and institutional personnel. It is, therefore, beneficial to be on a main air route with good connections with all parts of Canada.

5. Isolation from non-productive events. A social invention centre

must be judged by the number, and value of its inventions and the extent to which they are put into use. A great deterrent to such productivity is the tying up of valuable staff time in the procedural rituals of large bureaucratic organizations best exemplified by the Government of Canada. Examples may include frequent meetings on organizational problems, staffing of task forces to deal with urgent current problems, preparation of somewhat related position papers for conferences, preparation of speeches for senior officials and politicians.

6. Interaction with potential adopters on a frequent basis. The preparation, experimental conduct and evaluation of a new method takes up to four years of intensive work and does not require frequent interaction with the federal bureaucracy that supports the work. Indeed, more frequent interaction is required with progressive institutions than either federal or provincial bureaucracies. In human resource development programs there is a pattern of program permissiveness that is greatest at the federal level and decreases through provincial levels but is still quite perceptible at the institutional level. This is in keeping first, with the federal viewpoint that methods of human resource development are in the provincial jurisdiction and, therefore, federal programs permit the use of a wide range of social methods. Similarly, many provinces delegate to individual institutions the selection of particular methodologies. Generally speaking, provinces look to the more progressive institutions

to experiment with new methods and only when the new methods have demonstrated their value do provincial offices recommend the methods to other institutions for their consideration. It is in this context that provinces accept interaction between professionals in federal organizations and in provincial institutions, on the understanding, of course, that the relationship is collegial and not administrative.

The implications of this for the location of a social invention centre are that the centre have ready access to the more progressive social institutions. There is no one good location because each province must be dealt with separately and perhaps 20% of the related social institutions must be dealt with on a periodic basis.

The process of deciding to adopt a new measure is one of discussion of the method with the developers, viewing it in action, adopting it for experimental use and adapting it for general use. This process should be initiated before the first prototype is developed by the social invention centre because the entire process is a slow one and requires an early start. At the same time as the relationship with such institutions is cultivated it is important to establish and maintain a positive and useful relationship with the provincial department, but this does not require as much time or as frequent contact as with the progressive institutions.

Similarly, lesser contact is required with regional offices of federal departments (Manpower and Immigration, Indian Affairs,

Regional Economic Expansion, etc.) even though these organizations may purchase the service from the provinces. Generally they do not require any particular social methodology and often disclaim an interest in such "provincial" matters.

The location of a social invention centre requires, therefore, ready transportation between it and institutions that might adopt the methods developed.

7. Cohabitation with a progressive social institution. A federal social invention centre is generally prohibited from using the methods that it has developed because of the general understanding that the federal government should limit its role to financing social programs whereas the province has the responsibility of delivering the social programs. Therefore, a social invention centre would find itself operating in a provincial field if it were to test out its own methods. For this reason a partnership needs to be established with one or more social institutions that are agreeable to testing out the new methods at each stage of development. It is important for the social invention centre to be able to have continuous daily interaction with the conduct of the initial test runs of the new methods in order to gain the most detailed observations on the use of the methods and to make the best plans for re-development of the procedures.

8. Access to clientele. The clientele for a social method may vary with each project. For instance, a cross section of clientele

required might include Natives, Whites, illiterates, language students, vocational students, welfare recipients, psychiatric patients, aged, infirm, or any other classification of "disadvantaged" people.

The social invention centre requires ready access to such people in order that the staff have a first hand acquaintance with them. In this way the professionals can develop better judgement as to what is appropriate and possible rather than simply using the literature or the reports of others.

Because of the range of subjects that a social invention centre will address over the period of years, it is essential that the centre be located where most of these groups will be available. In some cases such groups are mutually exclusive. For instance, it is not likely to find both rural and urban residents in the same place. Thus, the largest and most cosmopolitan city is not necessarily the most appropriate.

Another factor to be considered is the purpose of the new methods to be developed and the implications this may have for location. For instance, if the project is to develop new methods of training rural residents for city industrial jobs the following factors have to be considered:

(1) How and where to gain the greatest understanding of (a) rural residents, (b) the nature of employment and the skills required in urban industry, and (c) the style of life in the country and

in the city working class district for men, women and children.

(2) Whether the training is to be provided in the locale of the rural people or in the industrial neighborhood.

Experience with retraining programs would suggest that for a project like this it would be best to provide the academic upgrading in the home locale and the vocational training in the industrial locale. Under such circumstances it might be decided that an experimental unit would have to be located in a rural community and another in the urban area. This serves to emphasize that there is no one best location for a social invention centre and that it may require field stations to be located for a period of time in different settings. Finally, if the centre is expected to develop English and French programs simultaneously, it should be located in a bilingual area (although this might negate areas with sizeable Native populations).

9. The politics of location. The location of an enterprise (whether it is an industry, school or government agency) is so important to a community from an economic standpoint that it is not often located or relocated without some political activity. Rivalries between cities or provinces for a given factory, for instance, provide ample evidence of the issues that can arise. These are relatively mild, however, compared to the reactions of a community to any attempt of a government to remove an institution from a community.

In some projects, and particularly experimental social programs, one

may expect to find a mixed reaction to the clientele and to the project itself. A publicly financed program or institution is always a fair and popular target for criticism and it is, therefore, placed in a position that makes it difficult for it to experiment. It is perfectly legitimate for a social invention centre to make mistakes for this is at the very heart of the experimental process and it is impossible to develop new methods without the possibility to experiment and hence make mistakes. It is essential, therefore, that a social invention centre develop a legitimacy for its role in the community where it is located. This acceptance must be gained from a number of sources including professionals, the media, chamber of commerce, politicians and other opinion leaders. As a matter of interest, it took some three or four years for Saskatchewan NewStart to gain this support in Prince Albert. The experience of that organization was that it was essential to have politicians of all parties to defend its actions and to promote its continuation.

10. The costs of relocation. The costs of relocating each employee and his family could readily amount to $2,000. each. The costs of preparing a new facility could amount to $130,000., (the cost of the Saskatchewan NewStart's non-recoverable leasehold improvements), the costs of packaging and transporting the assets (probably $25,000.), but probably the most important cost would be in the several calendar months of lost work before, during and after the move. This time would be lost in preparing for the move, in the process of the move

itself and in unpacking, rearranging, etc., and finally in establishing the relationships with a local counterpart to re-establish the experimental program in collaboration with new provincial colleagues.

The location of a social invention centre is as important and sensitive an issue as it is for locating a factory. There are a number of very important considerations that must be decided very carefully to ensure that the selected location will provide the most advantages to the project and to ensure the least likelihood of a costly and disruptive relocation at a later date.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Marriage - Family - Clan - Tribe - Society	Pre-history e.g. Hundreds of thousands of years (REF.: 11, p. 117-118)	Wherever Homo Sapiens lived	Homo sapiens	"Against the exacting climatic background of late Pliocene and Pleistocene times we have to picture animal behaviour evolving into social conduct; kindred groups becoming the exogamous clan within the tribe; instincts and habits of sexual intercourse and mating being more and more artificially directed and circumscribed until any infringement of the code gave rise to a social interplay of condemnation and guilt."
Morals Ethics	Pre-history e.g. 50,000 B.C. (REF.: 1, p. 30)	Wherever Stone Aged man lived	Homo sapiens	"The notion of conscience demands an awareness of a future. The man of the Stone Age must have regretted that he took one road, not the other: this surely is the dawn of conscience."
Religion - Magic, myth, Metaphysics	Pre-history e.g. 50,000 B.C. (REF.: 11, p. 206)	Wherever Paleolithic man lived	Homo sapiens	"As man's consciousness drew him apart from nature, he was bound to turn to look at nature and having contemplated it to seek to explain what he saw, to affect it for his own ends, and finally to regard it with awe and reverence and a desire for reunion."
Life after death - soul	50,000 B.C. (REF.: 5, p. 34-35; 4, p. 50)	La Chapelle Aux Saints in France	Mousterians (Neanderthal man)	Mousterians put their dead in graves normally dug in the cave where the group lived. General attempts were made to protect body. The head sometimes rested on a stone pillow. Graves placed near the hearths as if to warm occupants. Departed provided with tools and meat.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Spirits	50,000 B.C.	Alpine Caves	Neanderthal man	"Heaps of bones and skulls, particularly of cave bears, have been found deliberately, one might say ceremonially, arranged. The arrangement suggests rituals ... to avert the wrath of the bear spirit and ensure the multiplication of bears to hunt."
	(REF.: 5, p. 35)			
Burial of the Dead - Burial rites	50,000 B.C.	La Chapelle Aux Saints in France	Mousterians Neanderthal man	"Devised and socially sanctified burial rites which they ... hoped would reverse or cancel death."
	(REF.: 5, p. 34-35; 4, p. 49-50)			
Architecture	Pre-history e.g. 50,000 B.C.	Wherever Stone Aged man lived	Homo Sapiens	Originates "in the primitive endeavors of mankind to secure protection against the elements and from attack."
	(REF.: 8, p. 1)			
Art	10,000 B.C.	France	Magdalenian Hunters	Pictures of beast were drawn on walls of caves by the magic artist of the tribe in the hope that a real animal would appear in the hunt.
	(REF.: 5, p. 40-41)			
Fashion	8,000 B.C.	France Spain Africa	All Upper Palaeolithic People	They tried to increase their beauty and enhance their personalities by mutilating their bodies or decking them with ornaments.
	(REF.: 5, p. 42)			
Music	8,000 B.C.	France	Magdalenian man	"Music ... may have played a part in Magdalenian magic, since bone pipes and whistle have been found in the caves."
	(REF.: 5, p. 42)			
Drama	8,000 B.C.	Hither Asia Europe	Neolithic man	Neolithic man had an ancient fertility drama. The nuptial union of a 'king' and 'queen' "not only symbolized but also

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				magically insured and compelled the fertilization of the earth, that she might bring forth her fruits in due season."
	(REF.: 4, p. 86; 5, p. 65)			
Agriculture - Farming	6,000 B.C.	Jericho (Jordon Valley)	Neolithic man	The "earliest inhabitants supported themselves by hunting and collecting, but also growing crops, watered by a perennial spring, and grazing sheep and goats ..."
	(REF.: 5, p. 51)			
Ideographs	Pre 4,000 B.C.	Sumer	Sumerians	Certain signs were used for things, ideas and words.
	(REF.: 5, p. 104)			
Immortality	4,000 B.C.	Egypt	Upper Class	From earliest times, the Egyptians took great care in burying the kings and nobles of their country. Food and other items were put in their grave. Burial tombs evolved into great pyramids to protect the king's body and ensure his continued happiness. The art of mummification was invented to prevent annihilation.
	(REF.: 3, p. 137; 4, p. 128; 25, p. 120)			
Churches - organized sects - priesthood	4,000 B.C.	Sumer	Priests	The priesthood developed from "secret societes" who monopolized fertility and other rituals. Once recognized as a professional a priest could do "much to give concrete form to imaginary beings and by interpreting must have invented their desires."
	(REF.: 5, p. 87, 92)			
Government - concept of the state	Pre 3,500 B.C.	Sumer	Sumerians	Evolved out of the necessity to have an authority in an area in order to mediate

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				disputes. Was first embodied in one person and later bureaucracy developed around him.
	(REF.: 5, p. 100; 25, p. 61)			
City	3,500 B.C.	Sumer	Sumerians	The Sumerian was compelled by the flooding of the Euphrates and the need for perennial irrigation to co-operate in an elaborate organization. Thus the Euphrates delta was from the outset parcelled out into a number of agricultural-irrigational units each having its own centre of administration. These centres grew into cities.
	(REF.: 11, p. 418-420)			
Slavery	3,500 B.C.	Sumer	Sumerians	In the wars between the city states, the people who surrendered to the victors became slaves. Laws were developed to protect the slave.
	(REF.: 11, p. 473)			
Pictographs	3,500 B.C.	Sumer	Sumerians	Priests under a heavy load of administering the wealth of the temple used signs in connection with common task of keeping temple accounts.
	(REF.: 11, p. 633,; 20, p. 22)			
Indenture	3,500 B.C.	Sumer	Sumerians	"A bankrupt might himself be enslaved for debts or ... might sell his wife, his son or his daughter into slavery so as to acquire capital to pay off his debts, or might simply hand them over as payment to his creditor." Servitude only temporary, regulated by law.
	(REF.: 11, p. 475)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Medicine - pharmacopoeia - practice of medicine	Pre 3,000 B.C.	Egypt and Sumer	Egyptians Sumerians	In both countries, practice of medicine started as magic at approximately the same time. Egypt developed the empirical rational side whereas in Sumer magic and religious practices maintained their dominating influence. Both developed specialists and physicians and prescriptions for disease ...
	(REF.: 22, p. 492; 11, p. 693-697)			
Geometry	3,000 B.C.	Egypt	Clerks	Because of the flooding of the Nile, clerks, by experimentation, figured out geometrical means to calculate farmers plots again. Development of pyramids also encouraged development of geometry.
	(REF.: 5, p. 119;)			
Standard Weights and Measures	3,000 B.C.	Sumer	Priests Merchants	Because of the rise in the size of a building and amount of craftsmen in construction, a standard size was needed in measuring. The standardization of weights resulted from the need for set units in trade.
	(REF.: 5, p. 107; 4, p. 153)			
Embalming	3,000 B.C.	Egypt	Upperclass, Priests	The Egyptian's belief in immortality led him to find ways of preserving the body. Mummification was a safe-guard against annihilation of the body.
	(REF.: 25, p. 120)			
Armies	3,000 B.C.	Sumer	Rulers	To meet the threat against the city there evolved local citizenry organized and trained for regular warfare although they were not regular soldiers.
	(REF.: 11, p. 481-482)			
Writing - Cuniform	3,000 B.C.	Sumer	Sumerians	Summerians began to write when they began to associate sounds

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				with the various symbols they used. They began to combine pictograms to form different words.
	(REF.: 11, p. 634-637)			
Calendar - Solar	3,000 B.C.	Egypt	Officials of King's Court	The calendar was invented as the result of the Egyptians need for an advance notice of the annual Nile flood. Records were kept for fifty years and the results were collated. As a result the calendar was invented with 365 days.
	(REF.: 11, p. 680; 5, p. 120; 4, p. 110-111)			
Phonograms	3,000 B.C. to 2,800 B.C.	Sumer	Sumerians	"Using a sign for the sound of a whole syllable, regardless of its picture meaning."
	(REF.: 2, p. 20; 5, p. 105)			
Hieroglyphics	3,000 B.C.	Egypt	Egyptians	Writing was first invented in Sumer and the Egyptians took over the principle of writing ready made from the Sumerians and so were able to develop their writing in a very short space of time.
	(REF.: 11, p. 645)			
Factories	3,000 B.C.	City States of Sumer (Ur, Sippar)	Sumerians	There were private, royal and temple factories set up to produce goods for local consumption and for export.
	(REF.: 11, 592-594; 4, p. 115)			
Dictionaries	2,800 B.C.	Sumer	Sumerians	Begun as simple records of the conventions agreed upon.
	(REF.: 5, p. 107)			
Literature	2,800 B.C.	Egypt, Sumer	Authors Unknown	Sumerians wrote hymns, myths, and epics. Egyptians write hymns, poetry and proverbs.
	(REF.: 11, p. 797-818)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Book	2,800 B.C.	Egypt	Egyptians	Since papyrus was easier to work with, the 'book' must have been invented in Egypt soon after writing has been introduced. (Sumerian 'books' date to 2,500 B.C. and consisted of a series of tablets. Egyptian 'books' were papyrus roles.)
	(REF.: 6, p. 85-86, 115-116)			
Taxation	2,700 B.C.	Sumer	King, Temple Officials	Priests let out part of the temple lands to private individuals. This permitted the accumulation of wealth in private hands. As a result both king and priests taxed citizens on all aspects of life and death.
	(REF.: 20, p. 46)			
Medicine - Surgery	2,550 B.C.	Egypt	Egyptians	More scientific medicine started with the practice of mummification. The Egyptians did not consider it sacriligious to dissect a corpse. They made careful studies of anatomy and noted the general similarity of organs of men and beasts. Developed directions for treating wounds and fractures.
	(REF.: 11, p. 692-693)			
Archives	2,500 B.C.	Sumer	Priests Clerks	In part of the Sumerian libraries, "all documents relating to business transactions ... were filed. Royal decrees and correspondence, lists of taxes and official chronicles, would probably be placed in a special record office of the palace."
	(REF.: 6, p. 82)			
University	2,500 B.C.	Sumer	Priests	Schools of higher education were called houses of wisdom. Higher education included linguistics, theology, magic

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
	(REF.: 6, p. 99)			arts and medicine, astronomy and mathematics. Usually associated with a temple.
Library	2,500 B.C. (REF.: 6, p. 99)	Sumer	Priests	Developed for schools of higher education, usually attached to temples. Collected books on various subjects.
School	2,500 B.C. (REF.: 13, p. 2)	Sumer	Priests	"First established for purpose of training the scribes required to satisfy the economic and administrative demands of the land, primarily those of the temple and palace." Often attached to temple.
Multiplication Tables	2,500 B.C. (REF.: 4, p. 159)	Sumer	Research Organizations at Temple	Sumerians were dependent on trade. Mathematical tables were developed to speed addition of figures, thus increase the volume of foreign business.
Courts of Law	2,400 B.C. (REF.: 11, p. 497)	Sumer	Priests	"The law courts were but a department of the divine government and would therefore naturally be directed by the god's servants; and further, since all land in theory and a vast proportion of it in fact, belonged to the god, most economic questions would be of direct concern to him and would be regulated by priests."
Code of Law	2,100 B.C. (REF.: 9, p. 56)	Sumer	Sumerian Rulers	"The urge to regulate society by written ordinances had long been felt in Sumer." By 2,100 B.C. laws were beginning to be stated in written form.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Professional Soldier	2,100 B.C.	Babylon	Sarong of Akkad	To conduct campaigns as far away as Cappadocia and the Mediterranean coast a professional army was developed.
	(REF.: 11, p. 483)			
Astronomy - Astrology	2,100 B.C.	Sumer	Priests	Sumerians amassed astronomical data with the aid of their mathematics. "The earliest computations were concerned with (a) the duration of day and night in the different seasons (b) the rising and the setting of the moon and (c) the appearance and disappearance of Venus."
	(REF.: 11, p. 689			
Professional Administrator - civil service	2,100 B.C.	Sumer	Ruler Ur-nammi	The Ensis or the bailiff of the city diety "became governors rather than ruling local dynasts. The control of garrisons was taken out of their hands .. acquiring too much power ... was reduced by the practice of posting such officials from one city to another."
	(REF.: 20, p. 56)			
Guilds	2,200 B.C.	Sumer	Craftsmen	"To protect himself against undue competition; it must not be too easy for others to learn what he learnt, to profit by what he made; the number of craftsmen must be kept within reasonable limits and the secrets of the trade jealously guarded."
	(REF.: 11, p. 573)			
Mail - letters	2,200 B.C.	Sumer	Ur-Nammu	Letters carried by royal messengers kept the king informed on state matters.
	(REF.: 20, p. 56; 17, p. 276-280)			
Punishment for crimes	2,100 B.C.	Sumer	Sumerians	Penalties were either death or a fine, though mutilation was sometimes used. Person was imprisoned only to await his trial.
	(REF.: 20, p. 194)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Welfare	2,100 B.C.	Egypt	Egytian Rulers	From the walls of tombs, examples of rulers giving things to poor. Egyptian farmers seed in event of a crop failure.
	(REF.: 5, p. 137-138; 11, p. 625)			
Judgement of Souls	2,100 B.C.	Egypt	Upper Class	The Egyptian became more socially conscious "and in the tomb texts much emphasis is laid on ... the dead man's righteous dealing with his fellow man."
	(REF.: 11, p. 722; 5, p. 137-138)			
Concept of 360° circle	2,100 B.C.	Sumer	Priests	Concept arose out of astronomers trying to divide a circle into parts.
	(REF.: 9, p. 49)			
24 hour day 24 hour clock	2,000 B.C.	Sumer	Sumerians	"The organized co-operation of an urban population requires more accurate divisions of time than are needed in a rural village."
	(REF.: 5, p. 108)			
Fractions	2,000 B.C.	Babylon	Temple Schools Scribes	"Practical problems ... such as even the division of rations among workmen .. forced them to deal with fractional quantities."
	(REF.: 4, p. 160-161)			
Hell	2,000 B.C.	Egypt	Upper Class	Immortality was open to everyone. "Osiris became the judge who determined whether or not an individual might proceed to the celestial regions. Those whom he refused to pass apparently stayed in the old world a place full of serpents, crocodiles, and fire."
	(REF.: 25, p. 122)			
Prostitution	1,950 B.C.	Sumer	Sumerians	The earlist law codes had regulations for the place of the prostitute in the society and the children she might have by man.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Adoption	1,800 B.C. (REF.: 20, p. 171)	Sumer	Sumerians	"A child might be adopted by a childless couple as their own heir and legislation for such a situation is found in ancient law codes ...."
Medicine - Code of ethics	1,800 B.C. (REF.: 3, p. 40)	Babylon	Hammurabi	Hammurabi collected all the codes of law in existance and set down one general code. "Established for the first time the concept of the penal and civil responsibility of the physician."
Divorce	1,800 B.C. (REF.: 20, p. 208)	Babylon	Hammurabi	Laws for divorce first appeared in Hammurabi's code although it might have been in existence longer.
Algebra	1,800 B.C. (REF.: 11, p. 674)	Mesopotamia	Mespotamians	Sumerian notation and arithmetic technique made possible the higher developed form of algebra of the Babylonians. They carried on the work of the Sumerians.
Alphabet	1,500 B.C. to 1,400 B.C. (REF.: 7, p. 115; 16, p. 24)	Ugarit - Palestine	Phoenicians - Canaanites	Began as a tool of traders and men of business who were looking for a simpler method of keeping books. Came into general use after priests and merchants agreed on the sound associated with each character.
Coinage	700 B.C. (REF.: 5, p. 192)	Asia Minor	Lydians	The need for "pieces of metal of a fixed shape and standard weight stamped and guaranteed by the state as to both quality and weight" for use in trade brought on invention of coinage.
Hospital	600 B.C.	Epidaurus Greece	Priests	The temple at Epidaurus was one of the first to be built

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				dedicated to the Greek healing god Asclepius. A hostel was attached to this temple where sick people could come and be treated by the priests.
	(REF.: 23, p. 61, 73)			
Service Club - Cult of gods	600 B.C.	Epidaurus	Greeks	Wealthy patients who had been cured at the temple of this cult "continued to patronize them, make generous donations, and distribute alms among poor pilgrims."
	(REF.: 23, p. 73)			
Republic	600 B.C.	Greece	Aristocrats	The king was forced to reply on council of elders made up of prominent members of the most powerful clans. They gradually forced out the king completely.
	(REF.: 24, p. 102)			
Strike	490 B.C.	Rome	Plebs	For safeguards for debtors, right to intermarry with patricians, right to vote.
	(REF.: 5, p. 208; 2, p. 101)			
Concept of zero	300 B.C.	Babylon	Mathematicians	Babylonian mathematicians agreed on a sign for zero.
	(REF.: 5, p. 245)			
Practice of Law	100 B.C.	Rome	Public servants	"The duties of the praetor in Rome could hardly be administered by one not bred in the law."
	(REF.: 21, p. 181)			
Historiography	300 B.C.	Greece	Hecataeus	The Greek mind under the influence of science and rationalism "assumed a critical attitude towards the traditions of poetry and mythology and thus created historical science."
	(REF.: 10, p. 521)			
Museum	629 B.C.	Athens	Athenians	"Originally a place connected with the muses (q.v.) or the arts inspired by them."
	(REF.: 10, p. 704)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				The first Public Museum was the British Museum established in 1753 "whereas all arts and sciences have a connection with each other, and discoveries in natural philosophy and other branches of speculative knowledge for the advancement and improvement may give help in useful experiments."
	(REF.: 31, p. 132-3)			
Democracy	510 B.C.	Athens	Cleisthenes	After gaining back control of Athens, Cleisthenes instituted sweeping constitutional changes.
	(REF.: 2, p. 61)			
Organized Crime	11th Century		Hasan ibn-al-Sabbah	Inspired and directed a great band of devoted, hashish-drunken followers. Demonstrated that when associated crime is well organized and carefully directed, ordinary methods of protection are powerless to cope with it. The word "assassin" was derived from his name.
	(REF.: 33, P. 201-2)			
Licence	1,488 A.D.	Canterbury England	Civic Government	"A regular system of licensed retailers seems to have been adopted when it was complained that brewers and bakers went to live outside the town to escape enforcement of the assize..."
	(REF.: 12, p. 251-262)			
Newspaper Avisa, Relation, oder Zeitung	1609 A.D.	Augsburg Germany		The newspaper arose in Germany where the appetite for news was greatly stimulated by the battle over the Reformation, fought as that was, like a modern election.
	(REF.: 31, p. 247)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Universal Language	1629 A.D.		Unknown but reported by Descautes	An alphabet of characters somewhat similar to mathematical symbols and subject, like them, to manipulation in order to solve problems.
	(REF.: 31, p. 155)			
Encyclopaedia	1630 A.D.	Herborn Nassau	J.H. Alsted	In seven volumes published in Latin.
	(REF.: 31, p. 327)			
Political Party	1641	England		The abolition of episcopacy was proposed to Parliament and two parties stood opposed to one another in the House of Commons, not merely on some incidental question, but on a great principle of action which constituted a permanent bond between those who took one side or the other.
	(REF.: 32, p. 4)			
Reduction in number of religious holidays	1642 A.D.	Rome Italy	The Pope	The frequency of religious holidays had handicapped industrialization in Catholic countries.
	(REF.: 31, p. 389)			
Social Statistics	1693 A.D.	Breslau	Edmund Halley	An estimate of the degrees of mortality of mankind, drawn from the tables of births and deaths with an attempt to ascertain the price of annuities. He found that of every 1000 live births, 145 died during the first year so it was 6 to 1 that any child would live to age 2.
	(REF.: 31, p. 62)			
Freedom of the Press	1694 A.D.	England		
	(REF.: 31, p. 412)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Union - trade (Labour)	1699 A.D.	England Newcastle	Keelmen: Lighter men in coal industry	Workmen began to combine for purpose of mutual insurance against sickness, old age or death.
	(REF.: 18, p. 19-20)			
Exploration	1699 A.D.		William Dampier	The British government put him in command of one of the first vessels ever sent out for the sole purpose of adding to knowledge. He explored Australasia and New Guinea.
	(REF.: 31, p. 84)			
Scientific Method	1700 A.D.			"The establishment of the scientific method as the key to discovery led gradually to the subjugation of institutions, politics, religion education, psychology, and esthetics to the yoke of physics."
	(REF.: 31, p. 35)			
Public Circulating Libraries	1700 A.D.	Boston, New York		
	(REF.: 31, p. 318)			
Penitentiary	1700 A.D.	Rome	Pope Clement XI	
	(REF.: 15, p.)			
Postal Directory	1708 A.D.	Paris	A.H. Jaillot	The postal directory of France contained maps and illustrations of natural features and industries of the region.
	(REF.: 31, p. 89)			
First Comparative & Historical Ethnology Book	1724 A.D.		J.F.Lafitau	"Manners of the American savages compared to the manners of primitive times."
	(REF.: 31, p. 104)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Repeal of laws against Witchcraft	1736 A.D. (REF.: 31, p. 452)	England and Scotland		This law like most others, lagged far behind public opinion, which had been converted, for the most part, half a century before.
Enlarged Franchise	1769 A.D. (REF. 31, p. 178)			
Public Meetings	1769 A.D. (REF.: 31, p. 178)	England		Popular meetings began to express public opinion and soon became a regular and important organ of English political life.
Hypnotism	1843 A.D. (REF.: 26, p. 68)	England	James Braid	"Initially skeptical toward the phenomena of mesmeric sleep, he began his own experiments; he became convinced that genuine sleep can be induced by a fixed stare at a bright inanimate object." In 1843 he published a book, "introducing the term neurohypnotism or hypnosis..."
Model Housing-Model Development Societies	1844 A.D. (REF.: 27, p. 451 g)	England	Upper Class	"In 1844, the Society for Improving the Condition of the Laboring Classes opened its first model houses in England."
Professional Housing Management	1864 A.D.	London	Octavia Hill	"In 1864, she initiated her experiment in housing management with three houses in London. She set out to prove that if tenements were kept in as good condition as possible by competent, interested managers, the resulting efficiency and economy would not only be financially beneficial to the owners but would also set

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
	(REF.: 27, p. 451 h)			an example of order, cleanliness and decency to the tenants..."
Employment Agencies	1891 A.D.	New Zealand	Government	"The New Zealand Government, for example, established exchanges as long ago as 1891. Note: "The municipal and state systems of Germany, established before the turn of the century, served as a model for the British agencies." No other information could be found on the German system.
	(REF.: 28, p. 351-2)			
Pre-Planned Large-Scale developments-Garden City Movement	1903 A.D.	Letchworth, England	Sir Ebenezer Howard	"He conceived of a series of garden cities, with populations of around 30,000 each, surrounding a larger central city and separated from it and each other by generous green areas. Each of these garden cities would contain industries. Their pre-planned layouts would be maintained and overcrowding avoided by the elimination of speculation in land through communal ownership."
	(REF.: 27, p. 451 i)			
Group Therapy	1905 A.D.	not available	Joseph J. Pratt	"Though foreshadowed as early as 1905 by Joseph J. Pratt's group treatment of tuberculosis patients, only a few physicians practised group therapy before World War II. The large numbers of soldiers requiring psycho-therapy compelled psychiatrists to try to treat them in groups, and the use of group methods proved so effective that they developed rapidly in the postwar years."
	(REF.: 29, p. 804)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
International Control of Drugs - Hague Opium Convention	1912 A.D. (REF.: 30, p. 32)	Hague	Pres. Theodore Roosevelt	"The Hague Convention required each adhering power to control its production, importation and exportation of raw opium and coca leaves, as well as to regulate its own domestic manufacture, distribution and use, to confine the latter to legitimate medical purposes."
Laws for Control of Drugs	1914 A.D. (REF.: 30, p. 32)	Washington, U. S. A.	Government	"In the early 1900's a number of states passed prescription laws. To aid in the enforcement of these laws and to provide the regulation required by the 1912 Hague Convention, Congress in 1914 passed the Harrison Narcotics Act."
Psychodrama	1918 - 1923 A.D. basic principle formulated-brought to America 1932 (REF.: 29, p. 806)	Germany	J.L. Moreno	"In this method patients more or less spontaneously dramatize their personal problems before an audience of fellow patients and therapists, some of whom also participate in the dramatic production itself. The dramatization is followed by discussion between players and audience."
'Sit-in'	Feb. 1960, A.D. (REF.: 31, p. 291)	Greensboro, North Carolina	Negro College Students	"In February 1960, Negro college students in Greensboro, N.C., began to 'sit-in' at white lunch counters that refused to serve them. Soon the technique spread throughout the South...."
'Freedom Riders'	May, 1961, A.D. (REF.: 31, p. 291)	Southern United States	Congress for racial equality	"Groups of white and negro 'Freedom riders', in an experiment sponsored by the congress for Racial Equality, made several trips through the south by bus to test the right of travellers in interstate commerce to use unsegregated methods of transport, including terminals."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Marching and Demonstrating	1962 A.D.	Albany, Ga.	Negroes	"In 1962 the Negroes of Albany, Ga., began to call attention to their situation by marching through the streets and holding mass meetings."

(REF.: 31, p. 291)

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LEGAL SOCIAL INVENTIONS

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Court of Law	2,400 B.C. (REF.: 3, p. 497)	Sumer	Priests	"The law courts were but a department of the divine government and would therefore naturally be directed by the god's servants; and further, since all land in theory and a vast proportion of it in fact, belonged to the god most economic questions would be of direct concern to him and would be regulated by priests."
Judges	2,370 B.C. (REF.: 11, p. 217; 3, p. 497)	Sumer	Priests	"the existance of men called 'judges' is attested from Sargonid times (circa 2,370 B.C.) and before."
Code of Law	2,100 B.C. (REF.: 2, p. 56)	Sumer	Sumerian Rulers	"The urge to regulate society by written ordinances had long been felt in Sumer." By 2,100 B.C. laws were beginning to be stated in written form.
Punishment for Crime	2,100 B.C. (REF.: 11, p. 194)	Sumer	Sumerians	"The penalties for crime were generally either death or a fine, though mutilation was sometimes resorted to, especially in Assyria. There was no general system of imprisonment, although a person accused might be taken into custody whilst waiting trial ..."
Trial by Ordeal	1,800 B.C. (REF.: 11, p. 219)	Sumer	Hammurabi	"When there was a clash of evidence and neither side admitted guilt by refusing the oath by the life of the gods, the decision would then be handed over to the gods themselves. This was given, ..., by the Ordeal."
Civil Courts - secular judges	1,800 B.C.	Babylon	Hammurabi	"Hammurabi who was not a god, ..., or even the representative of a god, was meticulously

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				careful in religious matters but quite determined not to submit to priestly control, and it is in his reign that for the first time we see civil courts with secular judges in full power."
	(REF.: 3, p. 498)			
Concept of Individual in Law	610 B.C.	Israel	Jewish people	"But the greatest and most distinct triumph of the Jewish law was the final emergence of the individual .... At last, clearly and fully, the individual emerged as having rights of his own. No longer was the family treated as a whole in questions of responsibility."
	(REF.: 15, p. 102; 10, p. 575)			
Practice of Law	100 B.C.	Rome	Public Servants	"The duties of the praetor in Rome could hardly be administered by one not bred in the law."
	(REF.: 13, p. 181)			
Principle of Proof by Rational Inference	100 B.C.	Rome	Public Servants	"The principle of proof by rational inference to be drawn from proven facts and proof by the relevancy of testimony of witnesses ... was a part of the Roman law."
	(REF.: 8, p. 23; 13, p. 417)			
Cannon Law	200 A.D.	Roman Empire	Christian Priests	"The origin of cannon law is to be found in the practice of the early Christian Church before it became dominant in the Roman Empire, of withdrawing controversies, so far as it was possible, from the secular pagan courts and submitting them for final determination to the authority of the elders and governors of their own communities."
	(REF.: 9, p. 390)			
Civil Law	534 A.D.	Constantinople	Justinian	Civil Law is a system "derived from the phrase Corpus juris

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				civilis ('The Body of the Civil Law'), which in the early seventeenth century was applied to the compilation of the Byzantine emperor Justinian, published in A.D. 528-534. The modern Civil Law is founded on this compilation ...."
	(REF.: 9, p. 382)			
Inquest - beginning idea of Jury	800 A.D.	France	Carolingian Kings	"The inquest was a royal demand for information by the government. It was a direction to the local official to summon a number of persons from the district who would be acquainted with the specific facts, and to require them to attend upon a royal officer and testify to the truth of the matter."
	(REF.: 6, p. 241)			
System of Writs	1110 A.D.	England	Henry I	"The exercise of the royal jurisdiction, ..., was accomplished by the system of writs begun under Henry I by which the sheriff was instructed to summon a litigant to appear before the curia to answer the claim of a royal officer or another person."
	(REF.: 9, p. 385)			
Cannon Law - systematized	1140 A.D.	Bologna	Gratian	"This attempted by exposition and revision to reconcile discrepancies and place the canonical material in an orderly form."
	(REF.: 9, p. 391, 383; 15, p. 229)			
Jails in each County	1166 A.D.	England	Henry II	"Jails were widely used in 12th century Egnland as places for the confinement of accused persons until their cases could be tried at king's court. In 1166 Henry II commanded that every county should establish an institution for this purpose."
	(REF.: 12, p. 557)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Circuit Judge - Origin of True Criminal Law	1176 A.D. (REF.: 6, p. 111)	England	Henry II	"Henry II reorganized the system and divided England into circuits, which were regularly ridden for this purpose; and taken in conjunction with the Assizes of Clarendon and Northampton their administration of justice may be said to be the origin of true criminal law."
Jury	1176 A.D. (REF.: 6, p. 242)	England	Henry II	"The ordinances directed that the Chancery should issue a writ, to the sheriff of the county in which the land in dispute lay, to summon twelve men of good repute ... to give a verdict to the justices to take the assizes when they came into the county. This verdict ... required the assize to say whether decision of the land in dispute had taken place."
Coroner	1194 A.D. (REF.: 5, p. 1)	England	Richard I	"The office of coroner was established in September 1194 when the justices in Eyre were required to see that three knights and one clerk were elected in every county as 'keepers of the pleas of the crown' ... Throughout the middle ages the coroner could be ordered to perform almost any duty of an administrative or inquisitorial nature...."
Justice of the Peace	1195 A.D. (REF.: 6, p. 227)	England	Richard I	The idea of Justice of the Peace originates in the same act that created the coroner.
Magna Charta - Reign of Law	1215 A.D.	England	Barons Church	"The king, by the combined force of the Church and the barons, was compelled to sign what is called the Magna

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				Charta .... Established the doctrine that in England there should be a reign of law, since the king engaged that he would take no proceedings against any one except by the judgement of his peers or the law of the land."
	(REF.: 15, p. 250; 9, p. 386)			
Register - Law Book - Plea Rolls	1227 A.D.	England	Students, Junior Members of Bar	"The mounting number of writs made it possible to collect them and to treat the collection as a 'law book'. The first collection that has survived - the earliest 'Register' - is of 1227."
	(REF.: 6, p. 265; 10, p. 385)			
Attorney	before 1235 A.D.	England	Clerks	"The attorney or general legal advisor first appeared as a legal representative where a man was involved in litigation at a distance from his home." He was a "friend or advisor who undertook various steps such as the service of writs which were inconvenient for the client ...."
	(REF.: 6, p. 81, 84)			
Barristers Solicitors (A division is made in English System)	1250 A.D.	England	Clerks	"The complexities of the land law provided a constant challenge to the ingenuity of the professional lawyers, whose organization in the thirteenth century had taken on a characteristically medieval form, resembling that of the craft-guilds with their master and apprentices."
	(REF.: 9, p. 388)			
Law Reports - Year Books	1272 A.D.	England	Possibly Students, Junior members of Bar	"Both the authorship and the origin of these Year Books are obscure; ... there is now a growing agreement that they were used for instruction and hints as to contemporary practice."
	(REF.: 6, p. 269; 9, p. 388)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Training of a Lawyer	1292 A.D. (REF.: 6, p. 83)	England	Edward I	"In 1292, Edward I ordered the judges to take steps to ensure that adequate numbers of skilled 'apprentices' were available to argue cases in court."
Attorneys Instructing Counsel	1300 A.D. (REF.: 6, p. 84)	England	Attorneys	"As early as the fourteenth century we find attorneys instructing counsel such as they do today. Counsel had to accept the facts as instructed, but was free to conduct the legal argument on his own initiatives."
Consent of Parliament for Money	1307 A.D. (REF.: 6, p. 387)	England	Parliament	"The rule that no demands for money by the king, outside of the customary feudal dues, might be made without consent of Parliament dates from about the time of the fourteenth century. It is this rule which is properly considered one of the guarantees of English political freedom."
Oath to Tell Truth	1327 A.D. (REF.: 6, p. 245)	England	Courts	"By the time of Edward III witnesses took an oath to tell the truth and jurors only to tell the truth to the best of their knowledge."
Law of Treason	1352 A.D.	England	Compromise between King and Barons	"The object was to prevent the Judges, appointed by the King, from multiplying new treasons and forfeiting to the King the property of the traitors, which would otherwise have escheated to the mesne lords for felony. High treason was limited to planning or carrying out actual violence on the person of the monarch, consort or heir or his high officials,

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
	(REF.: 6, p. 365)			to forging the Great Seal, uttering false coin, or military rebellion."
Case Law - Cases as Precedent	1400 A.D. (REF.: 6, p. 276)	England	Judges	In the reign of Henry IV (1399-1413) the judges already refer from time to time to 'books' in which they can show authority for their rules, and the report or annotator of the report can find an exact reference."
Witnesses Compelled to Appear and Testify	1562 A.D. (REF.: 6, p. 245)	England	Chancery	"In 1562, following Chancery practice it was enacted that witnesses could be compelled to appear and testify."
Work Houses	1576 A.D. (REF.: 12, p. 557; 1, p. 5-6)	England	Justices	"During the 16th Century a number of houses of correction were established in England and on the continent for the reform of minor offenders. In these institutions there was little segregation by age, sex, or other conditions."
Habeas Corpus - Rights of Individual Protected	1641 A.D. (REF.: 14, p. 564)	England	Parliament	"Act of 1641, ..., had provided that any person imprisoned by the crown or the Privy Council was entitled to have the legality of the commitment examined and determined by the courts by means of the writ of habeas corpus."
Accessories After the Fact	1691 A.D.	England	Parliament	"Receivers of stolen goods were made accessories after the fact in 1691. In earlier times the law was rather obscure."
Statute of Limitations	1696 A.D. (REF.: 18, p. 492)	England	Parliament	A 3 year limit from the date of the offense for prosecution except for assassination or injury to the king.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Modern Form of Law Report	1756 A.D. (REF.: 6, p. 274)	England	Burrow	"These reports adopted the more modern form, with a headnote and a clear division between the facts of the case, the arguments of counsel, and the judgement of the court, and included at least a correct outline of the reasons upon which the decision was based."
Crimes Against Property	Geo. III Reign (REF.: 18, p. 492)	England		"Most of the new crimes were those directed against property; and the cause of their imposition was partly the rise to power of the moneyed class." Stealing was punishable by death, but perjury or assault were not.
Study of English Law at University	1780's A.D. (REF.: 6, p. 83)	England	Lawyers	"English law only became a university discipline in the late eighteenth century."
Penitentiary - Imprisonment	1700 A.D. (REF.: 16, Vol. 22, p. 605)	Rome	Pope Clement XI	The first definite anticipation of the modern prison was papal prison in Rome. Inmates were provided with cells, worked during the day and their reformation was the primary objective of imprisonment.
Full Citation of Authorities by Counsel	1785 A.D. (REF.: 6, p. 279)	England	Counsellors	The term Reports in 1785 "could be cited by counsel and they were not dependent on the longer memories of judges. Haphazard citation gave way to the modern practice of full citation of authorities by counsel."
Ombundsman	1809 A.D.	Sweden	Legislature	The Justitieombudsman was first appointed as an officer of the legislature under the constitution of 1809. His functions of receiving complaints from the people and protecting them against injustice were

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
	(REF.: 17, p. 2)			performed even before that date by an officer appointed by the king.
Trial by Battle Abolished	1819 A.D.	England	Parliament	The Statute of 1819 abolished trial by battle. "It marked the surrender of superstition in the administration of justice to a judicial process which was due to the growth of a conception of justice founded on moral and spiritual principles...."
	(REF.: 8, p. 12-13)			
Code of Procedure	1848 A.D.	New York	David Dudley Field	"New York in 1848 adopted the Code of Procedure prepared by David Dudley Field .... Both 'equity' and 'law' are administered in the same court and with the same procedure."
	(REF.: 9, p. 390)			
Equity	1873 A.D.	England	Parliament	"In 1876 it was at last acknowledged that the righteous law must govern in England by giving courts of common law equitable powers, and by enacting that where the common law rule differed from that of equity, the rule of equity should govern."
	(REF.: 15, p. 302; 6, p. 602)			

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WELFARE SOCIAL INVENTIONS

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Indenture	3500 B.C.	Sumer	Sumerians	"A bankrupt might himself be enslaved for debts or... might sell his wife, his son or his daughter into slavery so as to acquire capital to pay off his debts, or might simply hand them over as payment to his creditor." Servitude only temporary, regulated by law.
	(REF.: 10, p. 475)			
Welfare - Charity	2100 B.C.	Egypt	Egyptian Rulers	From the walls of tombs, examples of rulers giving things to poor. Egyptian farmers given seed in event of a crop failure.
	(REF.: 5, p. 137-8; 10, p. 625)			
Monastic Orders - charity	350 A.D.	Europe	Priests	"Monastic orders gave food, clothing, shelter and relief to the poor. No state stepped in to define these relations although a feudalistic society had long since been molded in the pattern of a mutual dependency."
	(REF.: 9, p. 4)			
Ordinance of Labourers - First Regulation	1349 A.D.	England	Parliament	"After the Black Death of 1348-9, Labourers were scarce and wages rose rapidly; a series of enactments was therefore passed designed to force every able-bodied man to work, and to keep wages at the old level. It is provided that no one is to give relief to able-bodied beggars ...."
	(REF.: 13, p. 3 - 4)			
'First' Poor Law	1388 A.D.	England	Parliament	"In 1388, therefore, regulations were made, restricting the movements, not only of able-bodied beggars, but of all beggars and all labourers and..., admitting the right to relief of those who were unable to work for themselves."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
	(REF.: 13, p. 4 - 5)			Probably had little effect - too stringent to have been enforced.
Hospital - Almshouse - Orphanage - Training Home	1520 A.D. (REF.: 13, p. 19)	London	Church	"The term hospital was by no means confined to institutions for relieving the sick, but almshouses, orphanages and training homes were often called by this name. St. Thomas's Hospital may be taken as a typical institution of the kind."
Law to repress begging	1536 A.D. (REF.: 9, p. 5)	England	Parliament	The breakup of feudalism and "The dissolution of the monasteries made apparent a tremendous amount of poverty... In 1536 Parliament passed a law decreeing that alms were to be collected by the churches each Sunday and that local authorities were to help relieve the impotent and sick poor. Begging and beggars were to be discouraged; valiant beggars were to be returned to their own settlements, hastened...if need be by flogging and even mutilation."
Welfare Officers	1572 A.D. (REF.: 9, p. 5)	England	Parliament	System of voluntary collection under voluntary agents did not work. "By 1572 overseers of the poor were appointed as civil officers to direct the expenditure of tax funds levied upon the local community for the purpose of relieving the poor."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Houses of correction -Poorhouses -Workhouses	1576 A.D.	England	Justices	"The justices of each county were empowered to secure by purchase or lease the building to be used as houses of correction. Here materials for work were to be provided for the unemployed to the end that work habits might be instilled, and relief be administered on a quid pro quo basis."
	(REF.: 9, p. 5 - 6)			
Elizabethan Poor Law - Aid by 'parishes' -"Basis of poor relief in England and America for over 200 years."	1601 A.D.	England	Parliament	"The Act of 1601...established three categories of relief recipients.... For the able-bodied poor employment was to be provided under pain of a session in jail or in the stocks for refusal to work. The almshouse was to be the sanctuary of the second group, the unemployables; while children... were to be apprenticed.... For the execution of these, legal provisions a tax was to be levied in the parish upon lands, houses, and tithes, which was supplemented by private charitable bequests of land or money, and by the use of fines for violation of certain laws."
	(REF.: 9, p. 6; 15, p. 1446; 11, p. 768B; 4, p. 133-36)			
Law of Charitable Uses - Philanthropic Giving	1601 A.D.	England	Parliament	"Parliament desired to maintain and strengthen the older voluntary system of charity in order that it might work concurrently with the newer organization now growing up."
	(REF.: 4, p. 137; 15, p. 1446; 12, p.1462)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Indenture for Children	1601 A.D. (REF.: 9, p. 61)	England	Parliament	The system of indenture by which a child was bound over to another person or family was a pronbunced development following 1601....
Houses of Correction in every county -workhouses as jails	1609-10 A.D. (REF.: 4, p. 137)	England	Parliament	"The new enactment of 1609-10 therefore provided that one or more Houses of Correction must be erected within every county.... This therefore probably marked the time when Houses of Correction ceased to be half workhouses and became very much more like jails."
Settlement Law of 1662 - Eligibility for aid	1662 A.D. (REF.: 15, p. 1446; 9, p. 6-7	England	Parliament	Parliament "established a minimum period of residence before a person would become legally settled in a parish. Until this period (usually a year) had elapsed, a needy person would be refused aid and forced to return to the parish where he had settlement rights."
Workhouse Test	1697 A.D. (REF.: 9, p. 7)	England	Parliament	"Parishes were permitted to join forces for the purpose of establishing workhouses in which the poor might be lodged and worked. To refuse to work however was to court dismissal and to be denied any relief."
Farming out poor	1697 A.D. (REF.: 9, p. 7)	England	Parliament	"Parishes were permitted to 'farm out' the poor on contract. This amounted, in essence, to an invitation to the lowest private bidder to exploit human labour to the utmost...." In 1782 Parliament abolished 'farming out'.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Organized System of Private Charity	1711 A.D.	Hamburg	City Government	A central bureau was established to supervise all the work among the poor and to bring together all charitable agencies under one management."
	(REF.: 9, p. 13)			
Unemployment Insurance Plan	1789 A.D.	Switzerland	Baseltown	"Group action to protect workers against the hazards of industrial life began as early as 1789, when Basel Town in Switzerland established an unemployment plan."
	(REF.: 6, p. 762)			
Dispensaries for Out Patient Treatment	1800 A.D.	America	Franklin	"By the end of the eighteenth century a number of cities had hospitals and, again with Franklin's support, dispensaries for the out-patient treatment of illness began to appear."
	(REF.: 15, p. 1448)			
Labour Legislation - Factory Acts.	1802 A.D.	England	Sir Robert Peel	The first factory act was to protect apprentice labour. "The act had little effect for powers of enforcement were lacking...but its significance lies in its revelation both of the depths to which the Elizabethan concern for the training of the young had sunk under new conditions and the coming of a new attitude, ..."
	(REF.: 4, p. 39 - 40, 60)			
Inspectors in Factories - Act of 1833	1833 A.D.	England	Parliament	"Inspectors were appointed to see that the law was obeyed, and, although at first they were very few in number and their powers were narrowly restricted their influence was to tell strongly, as the years passed, in favour of improved conditions."
	(REF.: 4, p. 62)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Children's Aid Society	1853 A.D.	New York	Charles Loring Brace	"A variety of services were made available, including lodging houses, schools emphasizing useful arts, and reading rooms. The society's chief claim to fame was its effort to give city children the opportunity to grow up in rural homes."
	(REF.: 15, p. 1449; 1, p. 779)			
Abolition of slavery	1833 A.D.	England		
	(REF.: 20, Vol. 25)			
Training of Social Workers	1864 A.D.	London Southwark	Octavia Hill Margaret Sewell	"The first ideas about training social workers stemmed from several sources including the work of Octavia Hill who, beginning her plan of rent-collecting in 1864, soon found it necessary to delegate some of the work to others....At the same time, Margaret Sewell...began teaching her voluntary workers.
	(REF.: 19, p. 53-54)			
Charity Organization Society	1869 A.D.	London	Edward Denison Octavia Hill	
	(REF.: 9, p. 15; 1, p. 777)			
Prevention of Cruelty to Children - Laws against cruelty to children	After 1875 A.D.	United States	Societies in a number of States	"In 1875, however, the New York Society for the Prevention of Cruelty to Animals (S.P.C.A.) demonstrated that it was possible to prosecute parents for abuse

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				of children under laws against cruelty to animals. Societies for the prevention of cruelty to children (S.P.C.C.), established in a number of states, successfully promoted legislation making cruelty to and neglect of children criminal offences."
	(REF.: 15, p. 1451)			
Legal Aid Societies	1878 A.D.	New York City	Citizens of German origin	"Citizens of German origin in New York founded an office intended chiefly to assist German immigrants in the protection of their rights."
	(REF.: 3, p. 897; 15, p. 1452)			
Probation	1841 A.D.	Boston	John Augustus	"As early as 1841 a Boston shoemaker, John Augustus, had begun as a sort of volunteer probation officer....In 1878, ...adult probation was undertaken officially in Boston and within two years the authorization was state wide."
	(REF.: 9, p. 218)			
Sickness Insurance	1884 A.D.	Germany	Bismark	Introduced to counter socialist agitation and was compulsory. "The contributions required to meet the cost of benefits were to be paid to the extent of two-thirds by the workers and one-third by the employer; a State subsidy was neither given nor asked for."
	(REF.: 8, p. 43; 16, p. 617)			
Settlement Movement	1884 A.D.	Toynbee Hall East London	Samuel A. Barnett	"Barnett's idea was to have university men actually live in'the worst parish in London'. Toynbee Hall,

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
				Barnett hoped, would help bridge this gap between rich and poor, between university men and working men, and that the two groups would learn from each other."
	(REF.: 7, p. 1175; 19, p. 64)			
Workmens' Compensation	1885 A.D.	Germany	Bismark	"It was intended to apply only to some of the more dangerous industries and enterprises and to secure almost automatically to the work people employed therein pensions for injuries... pensions to their dependants in the event of fatality."
	(REF.: 8, p. 41-3; 16, p. 617)			
Old Age and Incapacity Pension Insurance	1889 A.D.	Germany	Bismark	"The cost was equally divided between the workers and their employers, except that the State undertook to make a contribution to the pension given."
	(REF.: 4, p. 151; 8, p. 43-4; 16, p. 617)			
Paid-charity worker -Social worker	1890 A.D.	America England	Charities	"Brilliant young graduates of Harvard University made a career of charitable work; so also did men past middle age....Feminine tact and sympathy were prized in friendly visiting and many women who started as volunteers remained as paid charity workers."
	(REF.: 19, p. 87, 54; 11, p. 770)			
Psychoanalysis	1896 A.D.	Vienna, Austria	Freud	"Freud,..., made an alteration in their technique, by replacing hypnosis by the method of free association. He invented the term psychoanalysis,...."
	(REF.: 21, p. 721)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Juvenile Courts	1898 A.D.	Chicago	Government	"These informal noncriminal courts could adjudge a child neglected and make him a ward of the state."
	(REF.: 15, p. 1452; 1, p. 775-6)			
Full-scale School of Social Work	1899 A.D.	Amsterdam	Institute for social work training	"That school offered a two year course combining study of general sociological knowledge, socio-economic problems and legislation with supervised practical training in various fields of social work."
	(REF.: 11, p. 770)			
Old age Pensions	1908 A.D.	Great Britain	Parliament	"Now for the first time payments were to be made as of right, from national funds to a section of the needy, the elderly, within strict limitations of age and means, but with no test of actual destitution."
	(REF.: 4, p. 154)			
Compulsory health insurance program	1911 A.D.	Britain	Lloyd George	
	(REF.: 6, p. 763; 4, p. 183)			
Welfare Federation -forerunner of Community Chest	1913 A.D.	Cleveland	Chamber of Commerce	"A Cleveland Chamber of Commerce study made between 1909 and 1913 led to the establishment of the Welfare Federation as a united fund-raising organization for a group of agencies whose 'worthiness' is certified and whose budgets it reviewed.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Family Allowance	1918 A.D.	France	"Certain Firms"	"In France the modern movement began in 1918 with an industrial scheme under which certain firms paid a small proportion of their wages bill into an 'equalization fund' from which payments were made on the insurance principle to the men who had children." First government scheme - New Zealand, 1926.
	(REF.: 20, p. 554)			
Social Security Act-Centralization of Social Security in the U.S.	1935 A.D.	United States	President Franklin Roosevelt	"It provided for unemployment insurance and for retirement and death benefits (extended in 1959 to provide income for dependents of deceased or retired workers). It provided a nationwide framework of incentives, support and standards for financial assistance to persons in three groups.... - the aged, the blind and dependent children."
	(REF.: 15, p. 1446, 1450)			
National Health Service	1946 A.D.	England	Labour Government	"A comprehensive service, both available to all who wished to make use of it...and covering all forms of medical care...."
	(REF.: 4, p. 282)			
Code of Ethics for Social Work	Oct.13, 1960	United States	Delegates Assembly of N.A.S.W.	"The Code of Ethics...was adopted by the Delegate Assembly of the National Association of Social Workers..."
	(REF.: 14, p. 958)			
Welfare as a Right	1965 A.D.	United States	Office of Economic Opportunities (O.E.O.) Lawyers	"The lead actors who substantially established the legal concept of welfare as a right, ...were the Office of Economic Opportunity (O.E.O.) Lawyers, often working with N.W.R.O. (see next entry), who have toiled since the mid-sixties aiding low-income people and creating a new poor 'law'."
	(REF.: 17, p. 31)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Welfare Rights Organization	Summer 1967	Washington	Dr. George A. Wiley	Dr. George Wiley, who had organized the Poverty Rights Action Committee in Washington became aware of a protest march of welfare recipients in Ohio in June, 1966. He organized 20 other protests that summer. "Wiley and his few associates help a national convention of welfare recipients and other poor people the next summer in Washington and N.W.R.O. was officially born."

(REF.: 17, p. 80; 18, p. 36)

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EDUCATIONAL SOCIAL INVENTIONS

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Oral Examination	Pre 3500 B.C. (REF.: 5, p.20)	Wherever Primitive Tribes lived	Primitive Tribes	"Probably the initiation ceremonies by which primitive tribes have tested the knowledge of tribal customs, endurance, and bravery of their men prior to their admission to the ranks of adult males are among the earliest examinations employed by human beings."
School - Elementary and Secondary, (No distinction was made).	2500 B.C. (REF.: 10, p.2; 9, pp.658-63)	Sumer	Priests	"First established for purpose of training the scribes required to satisfy the economic and administrative demands of the land, primarily those of the temple and palace." Usually attached to temple.
Separation of elementary and secondary schools	2300 B.C. (REF.: 15, p.11)	Egypt	Egyptian Priests	
University	2500 B.C. (REF.: 3, p.99)	Sumer	Sumerians	Schools of higher education were called houses of wisdom. Higher education included linguistics, theology, magic arts and medicine, astronomy and mathematics. Usually associated with a temple.
University - Higher and Professional Education	2300 B.C.	Egypt	Priests	"Teachers were themselves professional men", and they used various places for instruction. "They had many manuscripts in literature, history, and science, and these manuscripts formed a kind of base around which professional studies were built."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Tuition Fees	2500 B.C. (REF.: 9, p.663)	Sumer	Higher Classes	"In private schools at any rate the headmaster had to make his living by means of tuition fees collected from students."
Written Examinations	2200 B.C. (REF.: 8, p.37)	China	National Government	"China had an elaborate national system of examinations for the purpose of selecting her public officials and these examinations have been known through the ages for their unusual severity."
State control of Education	594 B.C. (REF.: 15, pp.56-57)	Athens	Solon	"....The state was vested with authority to supervise education. However in actual practice the state was reluctant to use this authority."
Teachers' Contract - Sophists	445 B.C. (REF.: 15, p.78)	Athens	Protagoras	"The innovation in educational practices introduced by the Sophists was to contract with the students for a course of instruction which may have lasted as long as three years."
State Schools	46 B.C. (REF.: 21, p.93)	Rome	Caesar	"The beginnings of a system of state-schools were laid by Caesar, when he gave the franchise not only to all doctors who were living at Rome or should settle there, but also to all teachers of liberal arts."
State Supported Schools	75 A.D. (REF.: 21, pp.93-94; 2, p.12)	Rome	Vespasian	"The first endowment on the part of the state was due to Vespasian, who was the first to endow Latin and Greek rhetoricians with a stipend of 100,000 sesterces to be paid from the Imperial Treasury."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Catechetical method - Cathecetical classes and schools	100 A.D.	Alexandria	Established Philosophers	"The older and more experienced Christians prepared lists of questions most frequently raised by the non-believers provided well-thought-out answers for each question. These questions and their answers ....were taught to the younger missionairies...."
	(REF.: 20, p.106; 15, p.236)			
Monastic Schools	350 A.D.	Europe	Monks	"Monastic schools...were the first Christian schools. Their religious purposes were entirely clear, but they had literary objectives intended to supplement and complement moral and religious formation."
	(REF.: 15, p.241)			
'Licensed' Teachers	362 A.D.	Rome	Emperor Julian	"Julian in A.D. 362 asserts the right of the Emperor to revise the appointments to professorships. Hitherto it had been the exception for the Emperor to make the nomination himself....."
	(REF.: 21, p.96; 2, p.12; 15, p.209)			
Schedule of teachers' Salaries	376 A.D.	Roman Empire	Emperor Gratian	"In A.D. 376....the Emperor Gratian issued an edict which....fixed the salaries which were to be given."
	(REF.: 21, p.96; 2, p.12)			
Cathedral Schools	825 A.D.	Rome	Council of Churchmen	A council in Rome "made it clear that the specific instruction should be given in schools connected with the cathedrals. Furthermore these schools....were to be of a more advanced nature than the classes which taught elements of religion."
	(REF.: 20, p.190; 15, p.292)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Grammar Study	825 A.D. (REF.: 20, p.110)	France	Cathedral Schools	"The first requirements of the students was to learn the language of church literature....The instruction was given a grammatical orientation with much attention to the rules and special vocabulary of religious office."
Modern University - University of Paris	1000 A.D. (REF.: 20, p.192)	Paris	Abelard	"It is generally agreed that the work of....Abelard ....contributed substantially to the formation in Paris of a general body of students who had completed the studies provided at the lesser collegiate and cathedral centres. It was out of this body of advanced students that the institution which became the University of Paris was formed."
Grammar Schools	1100 A.D. (REF.: 20, p.197)	Europe	Priests	"To meet the need for proficiency in Latin, the collegiate and cathedral schools began to give more attention to the technicalities of Latin grammar. These schools....took on more of the nature of preparatory schools."
Deductive Approach - Deductive Logic	1100 A.D. (REF.: 20, p.198)	Europe	Priests	"The university scholar in the days of scholasticism was expected to be proficient as a dialectician. Therefore, formal study in the process of deductive logic came to occupy an important place in the curriculum of the preparatory or grammar schools."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Humanistic School	1428 A.D.	Mantua	School of Vitorino de Feltre	"His object became that of preparing the sons of his elite patrons for their adult roles as men of affairs. To this end he utilized the historical, scientific and philosophical context of the newly recovered learning."
	(REF.: 20, pp.202-3)			
Boarding School	1428 A.D.	Mantua	Vitorino de Feltre	"It was, in fact, the forerunner of a long line of famous boarding schools, some of which, notably several of the great public schools of England, are still in existence today."
	(REF.: 20, p.203)			
Vernacular Reading Schools - Parochial School	1528 A.D.	Brunswick, Germany	Johannes Bugenhagen	"The interest of the Protestant reformers in offering instruction in reading marks the beginning of the parochial school movement identified with some sects even to this day." Luther formulated educational ideas but it was left to Bugenhagen to put them into effect.
	(REF.: 20, p.116; 15, pp.385-7; 4, pp.79-81)			
Concept of Grades or Forms	1537 A.D.	Strasbourg	Johannes Sturm	"The practice of dividing the curriculum of the new grammar schools into grades or forms seems to have been introduced by Johannes Sturm...." "Each class had a definite objective and the work to be accomplished during the year was set down with absolute detail."
	(REF.: 20, pp.203-4, pp.91-2; 15, p.395)			
Inductive Approach - Inductive Logic - Emphasis on Mathematics	1600 A.D.	Europe	Rationalists	"The deductive logic ... was now replaced by the rules of inductive logic; and mathematical subjects replaced the disputations as exercises in the use of reasoning as the method of inquiry."
	(REF.: 20, p. 205)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Teacher Training Class	1672 A.D. (REF.: 19, p. 136)	Lyons, France	Father Demia	"First teacher training class on record was conducted by Father Demia."
Simultaneous or Class Instruction	1684 A.D. (REF.: 4, pp. 185, 223)	Rheims, France	St. Jean-Baptiste de Lasalle	"Pupils were divided into weakest, mediocre, and most capable group; and teaching of children in classes was practiced."
Normal School	1685 A.D. (REF.: 19, p. 136; 15, p. 435)	Rheims, France	Abbe De La Salle	"He established two more Seminaries for school masters in Paris. Practice teaching done under experienced teachers."
School for Girls	1686 A.D. (REF.: 22, p. 385)	St. Cyr	Mme. de Maintenon	The school became famous for the brilliance of its instruction. The liberal education, however, made the girls too witty, high spirited and worldly for the taste of the founder, and after 1692 the school was turned into a convent.
Vocational Education - Trade School	1695 A.D. (REF.: 19, p. 128)	Halle, Germany	August Herman Francke	"Included wood-working and manual occupations. In 1707 Gemler opened a school for apprentices, teaching mathematics, and other subjects related to the trades."
Compulsory Attendance	1717 A.D. (REF.: 2, p. 84; 22, p. 369)	Prussia	Frederick William I	"The work of France in the preceding century and the rapid development of the Pietistic schools led to the decrees of 1717 in which Frederick William I made attendance in the elementary schools of Prussia compulsory." He founded 1700 schools to meet the needs of the poor.
Monitorial System of Teaching	1747 A.D. (REF.: 22, p. 16)	Paris, France		Use children as monitors or teacher assistants, and break the learning process down into the smallest steps so that one master could teach hundreds of students.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
School for Deaf - Sign Language	1760 A.D. (REF.: 19, p.118)	Paris	Abbe De L'Epee	"Opened the first school for deaf." The school was taken over by government in 1761. He invented the sign language used by the deaf."
Public Schools	1763 A.D. (REF.: 2, pp.60, 84; 20, p.243)	Prussia	Frederick the Great	"The spirit of nationalism swept through Europe late in the eighteenth century. Resourceful political leaders soon came to see education as a means for building a strong state....Prussia built a national system of free schools....These schools were supported and controlled by the state."
School for Blind	1784 A.D. (REF.: 19, p.115)	Paris	Valentin	"L'Institution Nationale des Jeunes....the first school for the blind in the world. Early support was philanthropic and charitable, but state aid has gradually replaced private funds."
Adult	1754 A.D. (REF.: 19, p.119)	Wales	William Singleton and Samuel Fox	"To instruct working men and women."
Sense Teaching	1800 A.D. (REF.: 20, p.235)	Burgdorf	Pestalozzi	"His procedure, especially with the younger children was to take them on walks through the gardens, the fields, or the woods." In studying such things as trees and plants, he hoped children would accumulate sense data out of which right actions could be formed.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Technical Schools	1810 A.D. (REF.: 20, p.247)	University of Berlin	Government	"To meet the need for more advanced training in scientific fields, a number of higher technical schools were established, the most famous of which was the University of Berlin....."
Graduate Programs	1820 A.D. (REF.: 20, p.247)	Europe America	Universities	"Graduate programs were developed by the universities to carry on specialization to still higher levels. A well-qualified graduate of one of the four-year programs could now engage in graduate study in a particular field of scientific inquiry."
Schools for Cripples	1832 A.D. (REF.: 19, p.116; 7, p.230)	Munich, Germany	Mr. Kurtz	'Made the first attempt to educate cripples in specially adapted schools." 'Mr. Kurtz's plan was to give crippled children a specially good education and an opportunity to learn a trade to "earn a livelihood."
School for Feebleminded - Mental Defective	1837 A.D. (REF.: 6, p.276; 19, p.119)	France	Edouard Seguin	"The year 1837 when Seguin began his work, marks the real beginning of systematic rational training of mental defectives, which has gone on without interruption from that day to this." (NOTE: "The first school was opened at Salzburg, Austria, in 1816 but was closed in 1835 without having been much of a success." Opened by Gotthard Guggenmoss.)

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Kindergarten	1837 A.D.	Blankenburg, Germany	Froebel	"This was a school...which did not have preparation for later schooling as its chief purpose. The kindergarten was a place in which children could grow, develop, and learn in an entirely natural way."
	(REF.: 15, p.515; 12, pp.126-31)			
Formal steps in teaching - Learning as apperception	1838 A.D. (date of first Normal School in America)	Germany America	Followers of Johann Frederick Herbart	"This five-step teaching process ultimately came to be very widely used in American elementary schools. Many of the earliest classes for teachers and virtually all the American normal schools were established to train teachers to use this or a similar methodology."
	(REF.: 20, pp.240, 245; 2, p.92)			
Division of School Day	1840 A.D.	America Germany	Followers of Johann Frederich Herbart	Importance placed on the five-step lesson or teaching pattern "brought about the division of the school day into a series of teaching periods. Each period was given over to the teaching of a particular subject matter." The length of the periods depended on "subject matter and the age of the pupils."
	(REF.: 20, p.249)			
First Notable Educational tests	1845 A.D.	Boston	Boston Schools	"Instituted...as substitutes for oral tests when enrolments became so large that the school committee could no longer examine all pupils orally."
	(REF.: 5, p.22)			
Kindergarten for Blind	1861 A.D.	Moritzburg Germany		
	(REF.: 19, p.116)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Scheme for Selecting Curriculum	After 1862	New York	Spencer	"The answer to the question of what subject matter should be taught is found in its usefulness ... Spencer's line of thinking quickly gained influence among the new schools."
	(REF.: 20, p. 248)			
First Objective Educational Tests - Objective measures of achievement	1864 A.D.	England	Reverend George Fisher	His "scale books, used in the Greenwich Hospital School ... provided means for evaluating accomplishments in handwriting, spelling, mathematics, grammar and composition, and several other subjects. Specimens of pupil work were compared with 'standard specimens'."
	(REF.: 5, p. 22)			
Teacher's Union	1870 A.D.	England	National Union of Elementary Teachers	The first effective national non-denominational teachers organization.
	(REF.: 22, p. 145)			
Teachers' Colleges	1894 A.D.	Columbia University America	Universities	"The data produced by the innumerable studies on the mechanics of learning and its proper direction soon reached monumental proportions. The normal schools ... now found it necessary to augment their modest offerings with scientific courses ..."
	(REF.: 20, p. 275; 19, p. 139)			
Mental Tests -Forerunners of I.Q.	1895 A.D.	France	Binet and Henri	"Binet and Henri described tests of memory imagination, attention, comprehension, suggestibility, and esthetic appreciation that were forerunners of the Binet-Simon scales of the twentieth century."
	(REF.: 2, p. 138; 5, pp. 23, 24)			
Individual Intelligence Test	1905 A.D.	France	Binet and Simon	"Binet and Simon brought out the first intelligence scale in 1905, devising it primarily for the purpose of selecting mentally retarded pupils who required special instruction."
	(REF.: 8, p. 43)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Montessori School - House of Childhood	6th January, 1907 A.D.	Rome	Maria Montessori	
	(REF.: 16, pp.281-2; 13, pp.56, 43)			
Standardized Achievement Test	1908 A.D.	New York	Stone	"Stone, a student of Thorndike's published his arithmetic reasoning test, the first standardized instrument to make its appearance in 1908."
	(REF.: 8, pp.45-6)			
Junior High School	1909 A.D.	Berkley	Educators	"The aim was to hold more pupils in school and to make vocational provisions for those going to work."
	(REF.: 19, p.95)			
Guidance Counselor - Teacher	1909 A.D.	Boston	Dr. Frank Parsons	"As differentiated curricula were introduced to prepare students for specific adult callings, it became increasingly necessary to help each pupil to find the particular program best suited to his needs."
	(REF.: 20, p.278; 4, p.645)			
Junior College	1910 A.D.	Fresno, California	California Legislature (Law passed 1907)	"A. Great increase of students desiring and deserving education beyond the high school. B. Overcrowding of many colleges. C. Need for better instruction in early college grades. D. Demand for facilities of higher education nearer the homes.... E. Changing conceptions of the functions of secondary and collegiate education."
	(REF.: 19, p.96)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Informal Objective Examination	1920 A.D. (REF.: 8, pp.47-48)	Chicago	McCall	"First suggested that teachers did not need to depend solely upon standardized tests but that they could construct their own objective tests for classroom use."
Unit System - Unit of work - Teaching Unit - Fused Courses	After W.W.I (REF.: 20, p.250)	America	Curruculum Makers	"The work of each day within a given subject matter area is related to the central topic of the unit as a whole and, through the unit topic, to every other assignment in the unit....When correlation is attempted between subjects ....the educators....speak of correlated units, cooperative units, and fused courses."
Modified Programs - for Slow Learner and gifted	After W.W.I (REF.: 20, pp.277, 298)	America	Research workers	Because of the research into the differences in individual performances, "modified programs of study....were developed for the slow learner, just as programs.... were provided for gifted."
Real Life Needs	Before W.W.II REF.: 20, p.276)	America	Curriculum	"Attention was therefore focused upon real-life needs of pupils and the stimuli isolated for presentation in the classroom came more and more to be those which are encountered outside the school."
Teacher Aides	1953 A.D. (REF.: 14, p.64)	Bay City Michigan	Charles B. Park	"Casting about for a way out of the dilemma of having too few teachers and too few classrooms to handle his growing school enrollment, he decided....Bay City would bring non-professional local people into schools...to take over the overburdened teacher's routine work."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Television in classroom - Teaching through Television	1956 A.D.	Washington County Md	School Administrators, Teachers	"The adoption of closed circuit television occurred eight long years after Washington County school administrators and teachers began to re-examine and revise curriculum."
	(REF.: 14, p.81)			
Intern Teaching	1952 A.D.	Harvard	Graduate School of Education	"Purpose of the plan - to stimulate outstanding liberal arts graduates to enter the teaching profession." They began teaching immediately under the supervision of master teachers.
	(REF.: 14, pp.162-3)			
Programed Instruction - Teaching Machines	1957 A.D.	Harvard University	B.F. Skinner	"Programing was first employed on a regular basis in 1957 at Harvard University as a part of B.F. Skinner's 'The Analysis of Behaviour', a course designed to teach many of the behavioral principles on which programed instruction is founded. (NOTE: First teaching machines developed in 1915 at Ohio State University by Pressey, though were not used until after Skinner began experiments (Ref.: 17, p.1018)
	(REF.: 11, p.652)			
Team Teaching	1957 A.D.	Lexington's Franklin School, Mass.	S.U.P.R.A.D., A Program set up by Harvard Graduate School of Education	"The Lexington experiment stems in part from a proposal made to the Fund for the Advancement of Education in April 1956 by Dean Francis Keppel of Harvard's Graduate School of Education. It is a relentlessly analytical look at some of the inadequacies of American education."
	(REF.: 11, pp.12-3, 20)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Total Ungraded Primary School System	1957 A.D.	Appleton, Wisconsin	Teachers	As a result of dissatisfaction with the graded system, the ungraded system was considered in 1951. That September it was brought into one school with first year students. Next year it was extended to the "beginning primary students at all schools. In 1957-58 the program was adopted throughout the elementary schools."
	(REF.: 14, p.40)			
Computerized Education	1960 A.D.	University of Illinois	Researchers Coordinated Science Laboratory	"In considering various possible automatic teaching devices, it seemed clear from the outset that the greatest promise lay in the idea of an automatic teaching system organized around a large, high-speed, general purpose, digital computer...."
	(REF.: 1, p.201; 18, pp.196-8)			

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GOVERNMENTAL SOCIAL INVENTIONS

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Government -Concept of the State -King	pre 3500 B.C.	Sumer	Sumerians	Out of the necessity to have an authority in an area in order to mediate disputes. Was first embodied in one person and later bureaucracy developed around him.
	(REF.: 3, p. 5; 12, p. 61)			
Cities City-States	2500 B.C.	Sumer	Sumerians	The Sumerian was compelled by the flooding of the Euphrates and the need for perennial irrigation to co-operate in an elaborate organization. Thus the Euphrates delta was from the outset parcelled out into a number of agricultural - irrigational units each having its own center of administration. These centers grew into cities.
	(REF.: 6, p. 418 - 420)			
Professional Administrator -Civil service	2100 B.C.	Sumer	Ruler Ur-Nammi	The Ensis or the bailiff of the city diety "became governors rather than the ruling local dynasts. The control of garrisons was taken out of their hands... acquiring too much power...was reduced by the practice of posting officials from one city to another."
	(REF.: 9, p. 56)			
Political Scientists	600 B.C.	Greece	Greeks	"The Greeks were the first political scientists in history, and in the rise and fall of the various forms of government that they set up can be traced in miniature the whole story of civilization,...."
	(REF.: 8, p. 20)			
Republic	600 B.C.	Greece	Aristocrats	The king was forced to rely on a council of elders made up of prominent members of the most powerful clans. They gradually forced out the king completely.
	(REF.: 11, p. 102)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Democracy -limited	510 B.C.	Athens	Cleisthenes	After gaining back control of Athens, Cleisthenes instituted sweeping constitutional changes.
	(REF.: 1, p. 61)			
Federalism -Federal System	400 B.C.	Greece	Upper Class	"The predominance of federalism in the last stages of the History of Greece was chiefly caused by the necessity, after the Macedonian conquest of the Persian empire of having states larger than old city-states, to resist Macedonia and the large states formed out of the fragments of Alexander's Empire."
	(REF.: 10, p. 134)			
Municipal System	100 B.C.	Rome	Rulers	"In the municipal system we see what ancient Roman civilization has bequeathed to modern Europe; ...; but nevertheless the only real, the only constituted system which had outlived all the elements of the Roman world."
	(REF.: 8, p. 40)			
Empire -Emperor	100 B.C.	Rome	Roman Rulers	"Another fact, another idea equally survived: the idea of the Empire, the name of Emperor, the idea of imperial majesty, of an absolute and sacred power attached to the name of Emperor."
	(REF.: 8, p. 40)			
Feudal System -idea of corporations -principle of representation	500 A.D.	Europe	European people	"Every man had his place in society regulated by his occupation and when conditions became more settled, and the principle of representation began to gain ground it was by corporations that the nation was represented." These corporations took the shape of institutions that still exist.
	(REF.: 8, p. 60)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Origin of Parliament -Witan	991 A.D. (REF.: 13, p. 510, 788)	England	Anglo-Saxon Kings and Aristocrats	"The origin of Parliament can be traced to the Witenagemot of the Anglo-Saxon Kings, an assembly of the wise men of the realm. It had no definite Constitution, it was not elected, and...it contained no element of popular representation as we know it."
Origin of House of Lords	1066 A.D. (REF.: 13, p. 355)	England	Aristocracy	"The House of Lords is the lineal descendant of the Great Council or King's Council of the Norman and Plantagent Kings, with which the Saxon Witanagemot was deemed to be incorporated."
Magna Carta -rule of Law	1215 A.D. (REF.: 13, p. 448)	Runnymede	Barons Priests	"The constitutional importance of Magna Carta lies not in its specific provisions but in its establishment of the principle that the King cannot override the law."
Origin of House of Commons	1254 A.D. (REF.: 13, p. 346, 631)	England	Aristocracy	"Under the feudal system of local government the shires and boroughs were self-contained communities or 'communes' - hence commons - which had achieved a considerable measure of self-government including the right to assess their own taxes. In 1254 as a result of the Lords' reluctance to take the responsibility for raising the supplies demanded by the King, two knights from each county were summoned to the Parliament...."
House of Commons - becomes separate body	1300 A.D. (REF.: 13, p. 346)	England	Knights 'citizens'	"The 14th century saw the emergence of the Commons as a separate body, sitting and deliberating independently of the Lords."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Consent of Parliament for money	1307 A.D. (REF.: 7, p. 387)	England	Parliament	"The rule that no demands for money by the king, outside of the customary feudal dues might be made without consent of Parliament dates from about the time of the fourteenth century. It is this rule which is properly considered one of the guarantees of English political freedom."
Benevolent Despotism - administrative centralization	1492 A.D. (REF.: 8, p. 90, 71)	Europe	Hereditary Dynasties	"If there was one aim more than another which had characterized the Benevolent Despotism alike in England, France and Spain, it was administrative centralization, and democracy has pursued the same goal ..."
Divine Right of Kings -absolute Monarchy	1643 A.D. (REF.: 13, p. 208)	France	Louis XIV	"The doctrine which held that a king derived his authority direct from God and, therefore, invested with an absolute power to override all other authorities. This principle formed the great political issue of the 17th century."
Bill of Rights	Dec. 1689 A.D. (REF.: 13, p. 44)	England	Parliament	"It merely confirmed the existing rights of Parliament and the subject, which had been violated by James II, and was based upon the famous Declaration of Rights ..."
Control of the Executive by Parliament	1696 A.D. (REF.: 14, p. 24)	England		Ministers could not henceforth perform their duties without the confidence of the party in control of the House of Commons.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Cabinet -Prime Minister	1714 A.D. (REF.: 13, p. 66)	England	Committee of Parliament	From 1717 George I, "being unable to speak English, ceased to attend (the committee) and the business of government was transacted without royal participation." When attending upon the Sovereign the committe had been known as the cabinet, and this was the name retained after...." In the absence of the King a minister took over, hence the Prime Minister.
Hansard -Report of Parliamentary Debate	1803 A.D. (REF.: 13, p. 336)	England	William Cobbett	In 1803 William Cobbett began to include a report of parliamentary debate in his political Register....After eight years he sold his interest to a printer named Thomas Curson Hansard, who was the son of Luke Hansard, the printer to the House of Commons."
Civil Service paid by Crown	1816 A.D. (REF.: 4, p. 20)	England	Parliament	"In 1816 an act was passed by virtue of which Parliament took over the responsibilities for the salaries of those employed in public offices." Until this time, paid by ministers.
Press Gallery	1831 A.D. (REF.: 13, p. 566)	England House of Lords	Parliament	"The first Press Gallery was opened in the House of Lords in 1831...."
Secret Ballot	1872 A.D. (REF.: 13, p. 628)	England	Parliament	"In 1872 the Ballot Act introduced the system of voting by secret ballot.... Became established as a permanent measure in 1918."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Women Voting -Universal Suffrage	1893 (REF.: 5, p. 516)	New Zealand	Parliament	"In 1893 also, New Zealand became the first country to grant the vote to women over the age of 21...."
Communist Government -Government of Left	1917 A.D. (REF.: 2, p. 406)	Russia	Bolsheviks Lenin	"Late in November 1917, an agreement was reached with the Left-wing SR's, three of whom entered the government, and peace negotiations were begun with the Germans. The revolution proper was over, Lenin was in power."
Fascist Government -Government of right	1922 (REF.: 2, p. 442)	Italy	Mussolini	Fascism, which had begun as a patriotic anti-Bolshevik movement, and had then turned into an anti-labor movement..., had finally come to power as a conspiracy against parliamentary government in the service of a military clique.

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VOLUNTARY SOCIAL ORGANIZATIONS

Historical Societies

First Established

1572 - England
Society of Antiquaries, London

An academy for the study of antiquities and history. James dissolved the group for fear it would pry into State secrets.

(REF.: 28, p. 219)

Academie Francaise

First Established

1635 - France

To make French "already more perfect than any living tongue, succeed Latin as Latin succeeded Greek."

(REF.: 28, p. 259)

Trade Union (Labour)

- Combination

First Established

1696 - England

Prime Movers

Journeymen Feltmakers

Objectives - "To prevent a cut in wages."

Methods - "The first well-documented example that we have of an organized and at least semi-permanent combination to raise wages is that of the Journeymen Feltmakers. In 1696 we hear of a delegation of twelve journeymen in this trade negotiating with their masters ..." Unions developed since this time. Since 1880 there have developed federations of Unions.

(REF.: 10, p. 21)

Fraternity

First Established

1717 - London

Prime Movers

Free Masons

The first Grand Lodge was really inspired by current liberal thoughts, attacking both kings and priests in the interests of utilitarian, humane and rationalistic programs. The Masons had an important impact in educating the masses throughout Europe.

(REF.: 28, p. 315-6)

Orange Lodge

First Established

Sept. 21, 1795,
The Diamond in County Armagh, Ireland

Objectives - "To band themselves together for mutual protection and assistance should attacks be renewed." "To maintain the laws and peace of the country and the Protestant constitution."

Prime Movers
Protestants

Methods - "In 1798, when the United Irishmen rose in rebellion, the Orange Order was used by the Government to suppress them ... In the early years the Order supported the established Church of Ireland and was hostile to Presbyterians, though not as hostile as it was to Catholics. It was at this time mainly a defensive force for the Protestant peasantry against land-hungry Catholics."

(REF.: 9, p. 7; 22, p. 1029; 21, p. 780 - 781)

Peace Movement - Peace Societies

First Established
1815, United States

Prime Movers
David Low Dodge
Noah Worcester
Two Quakers

Objectives - To prevent war.
Methods - "The organized peace movement began in 1815 with the founding in the United States of three peace societies, the first in New York by David Low Dodge, followed independently by a Massachusetts society formed by Noah Worcester, and ones in Ohio by two Quakers. The tenets of Dodge's society are expressed in his pamphlet, War Inconsistant with the Religion of Jesus Christ..., which opposed all wars, declaring it was impossible to distinguish between offensive and defensive wars. Worcester's, A Solemn Review of the Custom of War ..., the first specifically to advocate joint action against war through peace societies, urged a confederacy of nations with a high court of equity for the settlement of national controversies. In contrast to Dodge and the Quakers, Worcester merely denounced war in general terms and admitted the legality and justifiability of defensive wars."

(REF.: 26, p. 41-42)

Young Men's Christian Association (Y.M.C.A.)

First Established
1844 - London

Prime Mover
George Williams

Objectives - Original - "Improvement of the Spiritual Condition of Young men in the drapery and other trades." 1889 - Luther Gulick - Fourfold philosophy - Companionship, Physical exercise and education and religious activity, 1901 Herbert Ames. "Every Association worker shall set before himself the idea of the Perfect man, and work toward it, body, mind, and spirit."

Methods - Original groups met for prayer and discussion. Set up Y.M.C.A. rooms in which reading materials, teas, 'socials', and lectures were provided. "The Association grew then as a lay, self-governing, voluntary organization, which sought to provide interesting and wholesome leisure time activities for a small proportion of the thousands of young men who crowded English industrial centres, as a means of leading them to 'The Christian way of life'." In Canada, after 1890, it developed an institution with a religious programme, educational work, social activities and physical education. After 1890, it began to work with boys. After the First World War, "there was serious questioning about many of the fundamental tenets of Association work - beliefs in possibility of developing Christian character through Bible study classes or religious services; the utility of adult-conceived programs for youth; the value of prize awards, and competition - all of these were regarded with considerable skepticism." After 1918 objectives and methods in the religious area began to be questioned and there was a movement away from the evangelical position to a more liberal view. Since 1945 this has led to a "considerable vagueness in the Association about objectives and methods," but the Y.M.C.A. has continued to function and grow, especially in the physical and social programs.

(REF.: 4, p. 909; 20, p. 4,5, 176-193, 194, 320-321, 351.)

International Red Cross

First Established

22nd August, 1864, Geneva, Switzerland

Prime Mover

Jean Henri Dunant

Objectives - Original - 1. "The establishment of voluntary 'medical services' in each country for the relief of the wounded in time of war. 2. To establish in the future permanent Red Cross Societies which would be called upon to act in times of peace to "despatch of various forms of relief, overcome difficulties as regard customs, prevent waste of every description ..."

Methods - First Geneva Convention of the International Red Cross set up the basic provisions for the operation of the Red Cross in a time of war. First used in Franco-Prussian War of 1870, when the International Committee

created the first International Agency for Relief of the wounded. "It was established at a nearby neutral point, Basle, Switzerland, and it carried out a pioneer relief supply scheme across the frontiers; while in Geneva the exchange of lists of prisoners-of-war and their correspondence began to assume a major part of Red Cross duties." In each war since the Franco-Prussian these services of the Red Cross have continued and have expanded. Red Cross Societies have been established throughout the world. In times of emergency they have given aid to people around the world.

(REF.: 19, p. 38, 39, 49; 11, p. 22-23)

Foresters, Independent Order of

First Established
1874 - Newark, N.J.,
Incorporated in
Canada, 1881

Objectives - "A fraternal benefit society, founded...as a death assessment society...."
Methods - "It operates 20 offices in cities across Canada, 45 in the United States and offers to its members more than a dozen plans of insurance....Fraternal benefits include aid in cases of poliomyelitis, tuberculosis, and cancer. Local courts participate widely in community activities."

(REF.: 13, p. 204)

Canadian Clubs

First Established
1893 - Hamilton, Ont.

Prime Mover
Charles R. McCullough

Objectives - Original - "To become better informed as Canadians and to implement the ideals of Confederation. Present - "To foster throughout Canada an interest in public affairs and to cultivate an attachment to Canadian institutions."
Methods - "They meet at intervals to hear distinguished Canadians or visitors from other countries speak on issues of national or international importance. Some of the clubs also sponsor projects for encouraging Canadian Art and Authorship, promoting Canadian citizenship (especially for new citizens) and an awareness of Canadian history and historic sites."

(REF.: 3, p. 188)

Victorian Order of Nurses

First Established
1897 - Ottawa, Ont.

Objectives - "(a) To supply nurses, thoroughly trained in Hospital and District nursing, and subject to one central authority, for the nursing of the sick who are otherwise unable

Prime Mover
Lady Aberdeen,
Wife of Governor-
General

to obtain trained nursing in their own homes, both in town and country districts; (b) To bring Local Associations for supplying District Nurses into association, by affiliation with the Order which bears Her Majesty's name, and to afford pecuniary or other assistance to such local associations, (c) to maintain, as a first necessity, a high standard of efficiency for all District Nursing; (d) To assist in providing small Cottage Hospitals or Homes."
Methods - "There was to be a Central Board, and in every district where a nurse was established, a Local Board of management, under whose supervision all arrangements for the nurse's work would be guaranteed." Nurses always have had to meet certain standards to work for the order. Branches are set up across Canada, "are supported by means of fees from patients (if able to pay), fees from insurance companies for service to policyholders, membership fees, municipal and township grants and additional money-making efforts on the part of local boards." Many are members of Community Chests.

(REF.: 16, p. 8, 113)

Imperial Order Daughters of the Empire (I.O.D.E.)

First Established
1900

Prime Mover
Mrs. Clark Murry

Objectives - "To assist with the education of Canadian Youth, to stimulate patriotism, to foster unity in the empire, to give aid to members of the armed forces and their dependents, to promote good citizenship and to cherish the memory of brave deeds."
Methods - First project was to supply comforts to Canadian soldiers fighting the Boar War." "As a memorial to those who died in the two World Wars, the I.O.D.E. grants valuable bursaries and scholarships to sons and daughters of men killed or seriously disabled. A total of $13,000,000. was expended by the order on various war time projects during the two World Wars and post-war relief. In peacetime, comforts are provided for veterans, for servicemen at home and abroad and for men at sea. Other activities include financial aid and personal visits to hospitals, assistance with nurseries and clinics, family relief in case of fire or flood."

(REF.: 18, p. 241)

National Committee for Mental Hygiene

First Established
1909

Objectives - "The end of man's inhumanity to man in the asylums and insane hospitals." "To

Prime Mover
Clifford
Whittingham Beers

develop preventative programs and to encourage research."
Methods - After organizing the Connecticut Society for Mental Hygiene in 1908, Beers organized the national committee. The first few years were spent in raising money for its work. After 1915 special studies and surveys were conducted by the National Committee funded by the Rockefeller Foundation. It organized many state agencies. Sub-committee was appointed to give advice and assistance regarding the problem of feeble-mindedness. A survey of all the good laws regarding the insane was prepared. A complete list of institutions was made and information was collected on systems of care. A card index for articles on mental diseases in various languages was made. Published bibliographies. Set up Mental Hygiene Exhibits. Sponsored Mental Hygiene Conventions.

(REF.: 1, p. 343 - 367)

National Association for the Advancement of Colored People (N.A.A.C.P.)

First Established
1909, New York
Prime Mover
William English
Walling

Objectives - "To combat racism, stamp out lynching and Lynch law, eliminate racial discrimination and segregation, and assure negroes of their constitutional rights."
Methods - "Since its founding, the N.A.A.C.P. has sought its goals through legal action to protect the rights of Negro citizens, non-partisan political action to secure enactment of civil rights laws, a program of education and public information designed to win popular support, and direct action to achieve specific goals. By the second half of the 20th Century, the N.A.A.C.P. had become a nationwide association of more than 400,000 members in over 1,600 local units in 50 States, and the District of Columbia. Headquarters were maintained in New York City with a bureau in Washington and regional officers in Atlanta, Dallas, Kansas City, Mo., and San Francisco. Its monthly organ The Crisis, had a circulation of more than 130,000.

(REF.: 27, p. 52)

Big Brother Movement

First Established
New York City, 1904
In Canada - Toronto, 1913
Prime Mover
Ernest K. Coulter

Objectives - "To guide and encourage disadvantaged, alienated boys from poor environments to develop a sense of personal pride and achievement."
Methods - The Big Brother Movement provided summer camps, group work, and health and

vocational guidance programs to supplement the individual work performed by the volunteer Big Brothers. The present local agencies, patterned after this initial Big Brothers Movement, set up similar programs according to the needs and resources of each community. The work of the individual local agencies is supported by volunteer contributions. The Big Brother agencies co-operate closely with other social agencies, public schools, and institutions, using existing neighbourhood resources as fully as possible."

(REF.: 2, p. 388; 3, p. 733)

Four H-Clubs

First Established
1904 - Douglas County, Minnesota

Prime Mover
T. A. Erickson

Objectives - Original - "To promote better crops, livestock, and homemaking." "A co-ordination of ideas gradually developed as a means of helping young people grow up on the farm."
Methods - Began as a corn, potato and tomato growing contest. Competition in fall at school fairs. Around 1920 began raising and showing cattle and pigs. Display cattle and pigs on agriculture and extension trains throughout the state. Four leaf clover emblem - head, heart, hands and health - was adopted for national club work as early as 1910, but the name '4-H Club' did not become generally used until after 1920.

(REF.: 6, p. 56-87; 49; 8, p. 666)

Rotary

First Established
1905 - Chicago, Ill.

Prime Mover
Paul P. Harris

Objectives - To combine "fellowship and volunteer community service with emphasis on good citizenship and high ideals."
Methods - Harris' original methods were "rotation in the place of meeting, in the chairmanship, and even in membership which was to be continued for one year only. The last named provision was an expedient to insure attendance, it being thought that sustained interest in attention to club duties would be assured if continued membership were made to depend upon re-election. Members were fined 50 cents for failure to attend meetings, and no excuses were given consideration. The proceeds of the fines imposed paid all expenses of running the club." Membership was limited to one from each trade or profession in a community. They meet for luncheon and discussion. Today, Rotarians are active in

programs for community welfare, good citizenship, improvement of rural-urban understanding, promotion of high standards in business and the professions, and the advancement of international understanding, good will and peace."

(REF.: 12, p. 258; 17, p. 93-7; 14, p. 336)

Boy Scout Movement
- Boy Scouts

First Established
15 January, 1908
London

Prime Mover
Sir Robert Stephenson Smyth Baden-Powell
Knighted July, 1929
- Lord Baden-Powell

Objectives - "Started for the purpose of training boys in the essentials of good citizenship."
Methods - Baden-Powell wrote a book Scouting for Boys, and placed it on the news stands in four parts. He intended that his ideas be used in existing clubs to improve them and when a boys' club did not exist, they could form a Boy Scout patrol. He proposed in his book the Patrol System, Troups, Scout Master, Scouts Oath, Scout's Law, System of tests, Badge system, Court of Honour, a motto, and a uniform. He instructed the boys in skills necessary for camping and life in the open. He began issuing a paper called The Scout. He instructed boys in health in body, mind and chivalry. He began having camps in 1908. He realized that his ideas were not going to be accepted by the existing movements by the autumn of 1908. Therefore, Baden-Powell set up a system in Inspectors, Commissioners, Counties, Districts and Scout Masters to lead the movement in 1909. Most of the same methods are used today.

(REF.: 5, p. 26-72; 23, p. 48)

Alcoholics Anonymous, General Service Board of
- Al-Anons for wives of Alcoholics

First Established
1934 - Akron, Ohio,
Formal organization est. 1938, New York City

Prime Mover
William Griffith Wilson and Robert Holbrook Smith

Objectives - "To stay sober and help other alcoholics to achieve sobriety."
Methods - In December, 1938, the Twelve Steps of Alcoholics Anonymous were formulated and incorporated into the A.A. book as guiding principles for alcoholics. The 'big book' Alcoholics Anonymous was published in 1939. In 1940 the first A.A. clubhouse was opened in New York City. In 1942 the Serenity Prayer was adopted for use. In 1944 A.A. began publishing official journal - A.A. Grapevine. Members meet in groups, "share their experiences, strength and hope with each other..." Requirement for membership in a group is the desire to stop drinking. There are no dues or fees for A.A. membership. A.A. is a self-supporting

organization through the contributions of its own members. "A.A. is not allied with any sect, denomination, politics, organization or institution; does not wish to engage in any controversy; neither endorses nor opposes any causes."

(REF.: 15, p. 21-46; 24)

Women's Liberation
- National organization for women

First Established
1966

Prime Mover
Betty Friedan,
Author of The
Feminine Mystique

Objectives - "Full equality for all women in America, in truly equal partnership with men, now."
Methods - In 1968, picketted the Equal Employment Opportunities Commission on sex discrimination in employment. In 1970 picketted to protest an attempt to prod Congress into enacting the 26th Amendment to the Constitution guaranteeing equal rights regardless of sex. In 1968 "picketted the New York Times in protest against the 'Help Wanted - Male' and 'Help Wanted - Female' column headings in classified advertising." "Helping two stewardesses' unions fight for the right of an airline hostess to stay on the job after she dodders past her 32nd birthday." "In New York they are pushing for the repeal of all state abortion laws." Their goals are "a nationwide network of child-care centres, operating as optional community facilities, revision of the tax laws to permit full deduction of housekeeping and child-care expenses for working parents; ...maternity leave and guarantee a woman's right to return to her job after childbirth; revision of divorce and alimony laws... and a constitutional amendment withholding Federal funds from any agency, institution or organization discriminating against women."

(REF.: 7, p. 24; 25, p. 55)

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PSYCHOLOGICAL SOCIAL INVENTIONS

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Hypnosis	1841 (REF.: 3, p. 34, Vol. 7)		James Braid	A consequence of his attempt to elucidate the true nature of mesmeric phenomena.
Correlation	1870 (REF.: 1, p. 110)	England	Galton	To measure the tendency of two attributes to be related.
Ranking	1884 (REF.: 1, p. 110)	England	Galton	Ranking methods were developed and scaled in relation to the percentage of the group above the individual. Thus were percentiles developed.
Free Association Technique	1879 (REF.: 1, p. 113) (REF.: 2, p. 15)	England	Galton	Wrote each of 75 words on separate slips of paper. Selected slips at random and timed himself until a word produced 2 ideas, then tried to recall the origin of the ideas and their connection with the stimulus word. Found the most frequent ideas dated from childhood and youth.
Questionnaire	1883 (REF.: 1, p. 113)	England	Galton	First used to ascertain the extent and quality of the use of mental imagery. It was sent to a variety of people and revealed a considerable range of individual differences.
Catharsis	1889 (REF.: 1, p. 207; 1, p. 212)	Paris Vienna	Janet Breuer	Under hypnosis patients were encouraged to recall forgotten painful incidents and to express their feelings about them. The working through of these emotions seemed to bring relief through the disappearance of neurotic symptoms.

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Mental Tests	1891	Columbia U.	Cattell	Gave freshmen tests to measure individual differences including sensory functions, quickness of movement, perception of time intervals, memory span.
	(REF.: 1, p. 110, 138)			
Mental Tests - Forerunners of I.Q.	1895 A.D.	France	Binet and Henri	"Binet and Henri described tests of memory imagination, attention, comprehension, suggestibility, and esthetic appreciation that were forerunners of the Binet-Simon scales of the twentieth century."
	(REF.: 2, p. 138; 5, pp. 23, 24)			
Individual Intelligence Test	1905 A.D.	France	Binet and Simon	"Binet and Simon brought out the first intelligence scale in 1905, devising it primarily for the purpose of selecting mentally retarded pupils who required special instruction."
	(REF.: 8, p. 43)			
Psycho-analysis	1896	Vienna	Freud	The attempt to interpret the data of free association, and of dreams reported by the patient, became a new form of therapy and a new method for studying the operations of the mind.
	(REF.: 1, p. 213)			
Child Guidance Clinic	1896	U.S.	Witmer	Children were treated individually and elaborate case histories were developed through interviews, tests and Witmer's own 'diagnostic teaching' techniques.
	(REF.: 1, p. 365)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Recall and interpretation of dreams	1897 (REF.: 1, p. 213)	Vienna	Freud	Developed a system for analyzing patients' dreams for diagnostic purposes.
Dynamic interchange between patient and analyst.	1920's, 1930's (REF.: 1, p. 270)		The psychoanalysts	The presence and stimulus of the analyst, the active production of verbal responses, and the analyst's interpretation of the individual patient's material during and after each session.
Clinical Interview	1900 (REF.: 1, p. 270)	Vienna	Freud	The clinical interview, the clinical case history, the clinical approach to behaviour as symptoms requiring diagnosis, aetiological description prognosis became a model for studying human behaviour.
Conditioned Response	1903 (REF.: 1, p. 161)	Moscow	Pavlov	Pairing of a neutral stimulus (buzzer) with the giving of food. In time the buzzer evoked anticipatory food taking reactions.
Group Therapy	1905 (REF.: 29, p. 804)	not available	Joseph J. Pratt	"Though foreshadowed as early as 1905 by Joseph J. Pratt's group treatment of tuberculosis patients, only a few physicians practised group therapy before World War II. The large numbers of soldiers requiring psychotherapy compelled psychiatrists to try to treat them in groups, and the use of group methods proved so effective that they developed rapidly in the postwar years."

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Non verbal test of intelligence	1917	U.S.	Yerkes	Army Beta test was devised for illiterate recruits into the U. S. army.
	(REF.: 1, p. 160)			
Trade Tests	1917	U.S.	J. C. Chapman	Trade tests were developed in the U. S. Army and published in 1921.
	(REF.: 1, p. 346)			
Merit Rating	1917	U.S.	Yerkes	Observers were given questionnaires to rate army trainee officers in order of merit for traits such as "Leadership", "quickness of reaching a decision, etc."
	(REF.: 1, p. 333)			
Paired comparison technique of rating		Yale U.	C.L.Hull	The person is given every possible pair in a group and asked to judge, which of each pair is the higher in a specific trait.
	(REF.: 1, p. 333)			
Time and Motion Study	1917	U.S.	Gilbreth	Analyzed every movement involved in a job; redesigned the work to decrease the movement and then set time standard for production.
	(REF.: 1, p. 352)			
Job analysis	1911	U.S.	Gilberth	Devised scheme for analyzing all manual operations in terms of basic types of action (grasp, hold, release, inspect, etc.) This then permitted asking if the operation was necessary and economic of effort.
	(REF.: 1, p. 345)			

SOCIAL INVENTIONS	WHEN	WHERE	WHO	WHY
Job Instruction training	1917	U.S.Navy Ship Yard		Time and motion studies enabled exact descriptions of improved skills to be given and schemes for imparting such skills through formal practical training to be drawn up.
	(REF.: 1, p. 354)			
Paper and Pencil Personality Test	1920	U.S.	R.S. Woodworth	The personal data sheet contained 116 items from psychiatric descriptions of neurotic symptoms. Yes or no answers were required to each question such as, "Did you have a happy childhood?", "Do you know anybody who is trying to do you harm?".
	(REF.: 1, p. 334)			
Ink Blot Projective Tests	1921	Switzerland	Rorschach	Devised and improved a series of tests using ink blots. The subject is invited to describe as many things as he sees in the ink blots and the test is scored under several categories.
	(REF.: 1, p. 339)			
Psychodrama	1921	Vienna	Moreno	Psychodrama is spontaneity training. "In this method patients more or less spontaneously dramatize their personal problems before an audience of fellow patients and therapists, some of whom also participate in the dramatic production itself. The dramatization is followed by discussion between players and audience."
	(REF.: 2, p. 474)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Vocational Guidance	1922	London	Cyril Burt	A vocational guidance unit was established and flourished greatly and led to several major research projects.
	(REF.: 1, p. 347-8)			
Aptitude Tests	1923	U.S.	Tagg	Analysis of engineering skills led to tests for perception of forms, space, memory of form and size, motor ability, accuracy of detail, attention and ingenuity in problem solving.
	(REF.: 1, p. 349)			
Vocational Interest Test	1927	U.S.	E.K.Strong	Strong attempted to discover the basic likes and dislikes of representatives of several occupations. Typical patterns for each occupational group were extracted, and this provided a key for each profession. It was then possible to compare the degree of similarity of interest between an individual and an occupational group.
	(REF.: 1, p. 338)			
Incomplete Sentences Test	1928	New York	Payne	Sentence Completion Test can be used as a group test, and by adaptation of its stimulus phrases to an immediate situation, can provide a personalized medium for projection of significant themes.
	(REF.: 2, p. 45)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Operant Conditioning	1930's	Minnesota	Skinner	When an animal made a desired response spontaneously, it was rewarded. The animal has to operate on its environment before it is rewarded. This was the application of Thorndike's Law of Effect to modify the conditioned response.
	(REF.: 1, p. 231)			
Factor Analysis	1930's	U.S.	Thurstone	The analysis of correlation matrices to extract and postulate discrete abilities.
	(REF.: 1, p. 329)			
Sociometric Measurement	1934	U.S.	Moreno	The techniques of sociometric measurement attempt to assess the attractions and repulsions of individuals towards each other within a group. Each member specifies which group he would like to cooperate with in a certain activity and who he would not cooperate with. Techniques aim to measure the strength of the attractions and antipathies.
	(REF.: 1, p. 377)			
Fantasy Projective Test	1935	U.S.	Morgan and Murray	A picturial method to stimulate stories that can be recorded and analyzed.
	(REF.: 1, p. 340)			
Visual Motor Projective Test	1938		Bender	Bender Visual-Motor Gestalt test was developed to diagnose personality disorders by having the client reproduce figures.
	(REF.: 2, p. 341)			

SOCIAL INVENTION	WHEN	WHERE	WHO	WHY
Client Centered Counseling	1940	U.S.	Rogers	Rogers developed a system of psychotherapy and was the first to obtain recordings of therapeutic sessions and undertake research on therapy.
	(REF.: 1, p. 418-19)			
Interaction Analysis	1950	U.S.	Bales	Interaction Process Analysis is a method of observing, classifying and analyzing the interpersonal reactions of individuals in a group spontaneously working on a problem.
	(REF.: 1, p. 422)			

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